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ART. I. *An Essay on the Circulation of the Blood.* By JAMES C. CROSS, M. D., Lexington, Kentucky.

THE perpetual succession of variously combined and modified theories, that have appeared since the period in which the illustrious Harvey made the discovery of the circulation of the blood, may be, with propriety attributed to the partial, and in many respects, erroneous views taken by their respective authors, of the structure and modes of action, of the instruments supposed to be directly or indirectly engaged in it. Amidst the crowd of error, however, that clusters upon our attention, as we examine the physiology connected with this subject, of the various epochs since the time of Harvey, it must be confessed, that there is not a little, which deserves to be distinguished, as furnishing honourable exception to this bare proscription. It must not, however, be understood from this remark, that we believe ourselves more highly gifted with intellectual excellence, freer from the possibility of error, more difficult to be warped in judgment or biassed in opinion by prejudice, or possessing a more enlarged capacity for researches and labours of this kind; on the contrary, it will be readily discovered, that while we have been able to offer something new, we have not hesitated to use whatever in argument or fact that appeared necessary to the illustration of our subject. I hope, however, I may say, without being chargedwith too much egotism of feeling, that the facts stated and experiments narrated, appear to lead to a more clear, satisfactory and philosophical view of the subject than has hitherto prevailed. In this, I may be mistaken, and if so, I labour under the conscientious persua-

sion, that I have faithfully detailed my experiments, disinterestedly collected and arranged the facts, candidly argued, and as far as I am able, honestly drawn my conclusions.

The circulation is a function indispensable to life, and it is so uniformly found in organized beings, that the idea of life is almost inseparably connected with that of the circulation. In vegetables it is apparently performed in an uniform manner, but in the different classes of animals, it manifests numerous varieties.

In man, and the mammalia, to which he belongs, the circulation may be defined an impulse by which the blood is perpetually and progressively driven in a continuous column, from the left side of the heart through the arteries, and returned again by the operation of the same impulse, through the veins to the great centre of the circulation, from whence it originally issued.

This function commences with the first development of the fœtus, and is unceasingly continued until death has frozen up the current and fountain of life. It is absolutely indispensable to animal existence, and when momentarily suspended all the phenomena of apparent death are usually manifested, and if this state is not speedily removed, actual death will be soon realized. It is the vehicle of conveyance into all the tissues of the materials of nutrition, it imparts life and vigour to all the functions, and furnishes the matter of the secretions, excretions, &c.

The circulation although surprisingly simple in its function, is, as it regards the instruments supposed to be active agents in carrying it on, remarkably complicated. These are the heart, arteries, capillary vessels and veins.

It is necessary, as we have previously indicated to be minutely acquainted with the organs of the circulation, on the subject of the heart, however, it is not important to enter into elaborate details as its anatomy and physiology seems to be settled. The former has taught us that it is muscular, the latter that it is irritable and contractile and possessed of a diastolic and systolic action.

Among physiologists, I believe it is an uniform opinion, that if the heart is not the exclusive, it is at least the chief agent that circulates the blood in the larger arteries or to the fancied point where it is supposed the general capillary system commences, then it is commonly believed to be independent of the propelling power of the heart. The force with which the heart acts on the blood, is but imperfectly known, notwithstanding numerous calculations have been made in

order to solve this difficult physiological problem. From Keil, who estimates it at a few ounces, to Borelli who augments it to the enormous and incredible amount of an hundred and eighty thousand pounds, we have the rude calculations of many others, that present doubtless as little precision. This is a phenomenon that never can be mathematically understood, and were we so fortunate as to discover its precise amount of power, I am not persuaded that any benefit would result. For whether it be a one or a five hundred pound power, is a matter of little if any consequence, since we never can ascertain from this circumstance, whether its influence is limited to the larger arteries—extended through the capillary vessels, or farther still exercising an agency in the veins, as has been supposed by Magendie. The wildest fancy can never imagine that the results of mathematical calculation can be applied to the explanation of the processes of the living economy, while they are regulated and governed by laws that are peculiar to vitality, and of course, foreign to any thing connected with dead matter.

Taking it for granted, that the heart possesses a propelling power, and that the specific amount of this power is as yet unknown, the consideration of the other instruments of the circulation, shall constitute the immediate object of our investigation, after we have endeavoured to ascertain how far its influence extends.

The heart in common with the other organs of the body, possesses that species of sensibility, and latent or insensible contractility, which appears to be indispensably necessary, in order to effect its nutrition; besides these, however, it is endowed with sensible organic contractility, which it enjoys in the highest possible degree of perfection, and it is this that imparts to the blood its motion. The heart is the great mover of the animal machine; it is the most active and vigorous organ of the living economy; it is perpetually undergoing contraction and dilatation, and it experiences, while in health, no intermittence of action. It surpasses, in the number of its contractions, all the other irritable organs; it is the first in which life is manifested, and the last in which it is extinguished. When the muscles of locomotion have ceased to act, the heart still continues to live; it is, as has long since been affirmed, the *primum vivens*, and the *ultimum moriens*. It should be remarked, that of all the muscular organs, the heart is, for a greater length of time, sensible of the action of galvanism; if this, however, is not critically correct of the entire organ, it is most unquestionably true when con-

fined in its application to the auricles. This is a circumstance that has some analogy with the rigidity of the dead body; there the muscles which have been most exercised during life, are those which lose the faculty of contraction soonest after death. The heart must therefore be considered a muscular, and eminently contractile organ.

The impulse which the blood receives from the heart, is uniformly admitted by physiologists to extend as far as the imaginary point at which the capillary system of vessels commences. Whether its influence is felt at a greater distance than the point just indicated, can never be ascertained by any calculations of the heart's power; for even were it possible to obtain any thing like precision as it respects its specific force, it would never remove any of the difficulties connected with the circulation; for, as we have before indicated, such gross estimates could never, with accuracy, be applied to it, since the laws which regulate the motion of the blood in the veins are, and ever must be, very different from those that control an inanimate fluid in inert canals. We must, therefore, ascertain the extent of the heart's action, by studying the circulation, and its phenomena, in the living subject.

That the impulse of the heart is confined to the limits just alluded to, I am very far from being convinced. Indeed, in denying the prevalent hypothesis, we do nothing more than reiterate sentiments that have been long since promulgated, but which have been rejected as false and unfounded. It was asserted, many years since, by Leuwenhoek, that in the course of his microscopical observations, he observed the impulse of the heart influence the motion of the blood in the largest veins. Hales distinctly saw the motion of the blood accelerated in the veins, as well as in the arteries of frogs during the systole of the heart. It is affirmed in positive terms by Spallanzani, that the venous blood, in his numerous and repeated experiments on the salamander and other animals, was sensibly increased in its velocity during the systole, and diminished during the diastole of the heart.

Magendie demonstrated, but a few years since, by an ingenious and well conducted experiment, that the action of the heart is extended not only farther than the limits prescribed it by his immortal countryman Bichat, and his disciples, but even into the veins. He says, in his *Summary of Physiology*, "Après avoir passè une ligature autour de la cuisse d'un chien sans comprendre ni l'artére ni la veine crurale, appliquez une ligature séparement sur la veine prés de l'aine, et faites une légére ouverture à ce vaisseau; aussitôt le sang

s'echappera en formant un jet assez élevé. Pressez ensuite l'artère entre les doigts, pour empêcher le sang artériel d'arriver au membre : le jet de sang veineux ne s'arrêtera pas pour cela, il continuera quelques instans ; mais il ira en diminuant, et l'ecoulement finira par s'arrêter, quoique la veine soit pleine dans toute sa longueur. Si pendant la production de ces phénomenes on examine l'artére, on verra qu'ell se resserre peu à peu, et qu'elle finit par se vider complétement ; c'est alors que le sang de la veine s'arrête ; á cette époque de l'expérience cessez de comprimer l'artére : le sang poussé par le cœur s'y prècipitera, et ausitôt qu'il sera arrivè dans les dernières divisions, le sang recommencera á couler par l'ouverture de la veine, et petit à-petit le jet se retablira comme auparavant. Maintenant comprimez de no-uveau l'artére jusqu'a ce qu'elle se soit vidée, ensuite n'y laissez pénétrer que lentement le sang artériel : dans ce cas l'ecoulement du sang par la veine se fera, mais il n'y aura pas de jet, tandis qu'il se dével-oppera, dès que l'artére sera entièrement libre." But Magendie wishing to prove this phenomenon in a more evident and satisfactory manner, "introduissit l'extrémité d'une seringue remplie d'eau chaude dans l'artére crurale, et ponssa lentement le piston. Le sang de la veine ne manqua pas de sortir, d'abord seul, et ensuite mêlé á l'eau, formant un jet qu'on rendait plus ou moins grand en poussant le piston avec plus ou moins de force."

If the confidence which this novel experiment merits reposed in it, there would be little necessity for additional facts or experiments to evince that the heart has considerable agency in the venous circulation : but as this is not the case, I will venture to narrate a few experiments confirmatory and illustrative of the same fact.

I exposed the crural artery and vein of a young, but full grown bitch. The vein was dissected from the artery, and a moderately sized cord passed under the former, and so adjusted as to embrace to the remaining portion of the thigh. A ligature was thrown around the vein as near the groin as possible ; it soon became turgid with blood, and in this condition it was punctured just below the ligature. From the puncture the blood issued immediately in a bold stream ; the cord around the thigh was then tightened, until I was convinced not only that the circulation was suspended in the crural artery, but in the entire member. That this was the case I most confidently believe, as the cord was drawn so tight, that the limb at the place where it was applied, was reduced to at least one third its usual magnitude. At this period of the experiment, the

blood ceased to flow from the vein immediately, notwithstanding it was turgid with blood up to the ligature, and as far down the extremity as it could be conveniently traced. The cord was then loosened, and instanter, the blood recommenced flowing from the vein; it was again tightened, and it again immediately ceased; this phenomenon in this experiment was clearly and obviously manifested at least a dozen different times, and in the presence of a number of medical gentlemen. I will add, that two years since I extended this experiment, by substituting a syringe in the place of the heart, and water instead of blood, and obtained the same results as Magendie; but in this there was no person present, except a servant, who assisted me.

I exposed the external jugular vein and carotid artery of a large and full grown dog; dissected up the trachea, so as to permit a cord to pass under it and over the œsophagus, that the animal might not be suffocated when it was drawn close around the neck, as was my intention at a more advanced stage of the experiment; a ligature was then placed around the vein as near the heart as possible; it was punctured immediately above the ligature, and the blood sprang from the orifice in a large and rapid stream; a ligature was then thrown around the artery, and the cord about the neck drawn as close as possible. As soon as the cord was drawn to a certain degree of tightness, the blood ceased flowing from the vein, although, as in the former experiment, it was turgid with blood to the ligature. The cord was loosened, the blood issued as before, and this was exhibited as often as the cord was tightened and loosened. In order to render this experiment, if possible, more satisfactory and conclusive, I determined to substitute a large syringe in the place of the heart. With this view, I opened the carotid just above the ligature, tightened the cord around the neck, introduced the pipe of the syringe, which contained more than a pint of lukewarm water, and forced it into the vessel with considerable rapidity. The moment after I began to force the piston, the blood began to issue from the vein, precisely as it did when under the impulse of the heart; this continued for a very few moments, when it was succeeded by the water impregnated with blood, but before the experiment was concluded, it was almost as pure as when it was introduced. When the syringe was removed, the vein ceased to pour out the water, though it was turgid with it in the same manner as it had been with blood; that this was the case I was convinced, for when the vessel

was held in a strong light, it was manifestly more than semi-transparent.

It may not be unimportant to add, that when the animal was removed from the table he was unable to move, appeared comatose, and was insensible. He breathed quick and laboriously, and a very aqueous saliva flowed from his mouth in great abundance. This state continued for two hours and a half, at which time he began to manifest symptoms of improvement, which continued progressively to increase until he completely recovered, and is now alive, (the experiment was performed a month since,) and as healthy and sprightly as if nothing but pure blood had ever circulated in his veins. Both the external jugular vein and carotid artery were tied by two ligatures upon each of them, one above and the other below the punctures.

A friend hearing me advocate the hypothesis which the above experiments appear to sustain, detailed to me the following fact. He observed that his wife was afflicted with repeated and violent paroxysms of palpitation of the heart, and frequently when labouring under the most vehement attacks of her disease, as distinct pulsations could be felt in the superficial veins of her arms as in the radial or any other medium sized artery.

The following very remarkable and highly illustrative case recorded in the Memoires de l'Acadèmie des Sciences, 1704, by Homberg, proves as clearly and satisfactorily as human evidence can, that the heart has a direct agency in circulating the blood in the veins. This candid and ingenious physician speaks of a woman in whom an aneurism of the heart occasioned violent and repeated attacks of palpitation. During the paroxysms of this affection distinct pulsations could be discovered in the veins of the arm, and in those of the neck, and that these pulsations corresponded most perfectly with the contractions of the heart.

It has been objected in debate, that this case presented, an entirely unnatural state of things, and should not therefore, be allowed to influence our opinion as it regards the distance to which the impulse of the heart is felt. That this objection is gratuitous and in every respect unfounded, every individual I am persuaded, who is not blinded by ignorance or warped by prejudice will at once admit. It is true that in this case, the action of the heart was morbid, but to this I will observe that if we exclude every fact of a pathological character the sciences of health and of disease will ever be involved in impenetrable darkness, and present a barren, jejune, and unpro-

mising field for cultivation. In this instance an important revelation was made—a disclosure that all the industry and ingenuity of man could never have made, in so perfect and conclusive a manner. The heart had acquired by disease an unnatural and morbid increase of power, which enabled it to display its agency much more manifestly than usual, and than is necessary for the complete and harmonious performance of its functions. Such evidence as this case offers, is to us perfectly irresistible, and we feel persuaded that when its merits are correctly appreciated, and the thorough correspondence between it and the experiment performed by Magendie and those by myself, are duly considered, every individual must at least suspect that the *vis a tergo* of the heart extends to a greater distance than the limits prescribed it by the beautiful and seductive capillary system of the immortal Bichat.

Indeed there is such an uniformity in the evidence furnished by the experiments narrated, and the pathological cases detailed that it appears exceedingly difficult, if not quite impossible to come to any other legitimate inference, than that the impulse of the heart, extends not only beyond the hypothetical commencement of the capillary vessels in which the blood is supposed to circulate by their tonic powers; to exercise an influence according to Magendie, in propelling it in the veins, but to extend to the very threshold of the right auricle. This is an opinion in which I believe I am sustained by the evidence already adduced, and which will receive additional confirmation from the facts and experiments to be stated in the sequel of this essay. It is an opinion that denies that the large arteries sensibly contract, that there is a general and local capillary system; that the tonic powers of the vessels which constitute these systems circulate the blood in them, that muscular contraction or pressure circulates it in the veins, and that the heart according to Dr. Carsen is a propelling and sucking organ.

The arterial tissue is formed of three tunics. The first lines all the vessels in which red blood circulates; it is smooth, highly polished, and lubricated by a serous fluid, for direct experiment demonstrates that there is an exhalation into the arteries; it is endowed with but an inconsiderable amount of extensibility; it is almost colourless generally, and has a remarkable tendency to ossification. This is one of the most striking features of this tunic, for although this phenomenon is sometimes manifested in the internal membrane of the veins, it is far from being so common a circumstance as in the arte-

ries. The external tunic is exclusively cellular; it possesses more extensibility than either of the others, and invariably forms, according to Scarpa, the aneurismal sac. The middle tunic is thick, yellowish, and composed of fibres that are nearly circular; they are very dense and compact, and have but little extensibility; these fibres are very fragile, and so easily separated, that they appear rather to be in juxta-position than closely bound together by cellular tissue; and it is to the scantiness of this tissue, if it exists at all, that the brittleness of the arteries is exclusively referable, but the questions which more particularly arrest our attention, are, what is the nature of this tunic; what are its properties and mode of action.

It is very certain, that both observation and experiment have clearly evinced that the fibres of this tunic have no character in common with the muscular fibre. There is no correspondence in colour, though this is neither an essential, nor constant character; there is no resemblance in softness or in form; for in the arterial it is flat, and in the muscular it is round; there is no analogy in action, for in the former it is very much confined, if not restricted to the feeble effects of elasticity, and in the latter it enjoys the widest range of exertion. When submitted to the action of chemical reagents and maceration, they furnish results that are in perfect antagonism. The arterial tissue furnishes neither cellular tissue, nor fibrine, both of which are essential to the muscular, and both of which are invariably found wherever there is a real bona fide muscle. The faculty of sensible organic contractility is almost exclusively confined to the muscular fibre, while the experiments of Bichat, who repeated those that were performed by Laennec, with the design of proving the arterial fibre contractile, those of Magendie, Nystern, &c. carry invincible evidence, against the opinion which maintains, that the arteries have sensible organic contractility. It may be urged that the uterus and the iris sensibly contract, but objections arising from either of these sources may, without difficulty, be answered. Contractility is never manifested in the uterus but at stated periods, when some accident has induced it to prematurely act, or at the termination of utero-gestation, when it expels its contents. If, however, it does contract in the unimpregnated state, no one will seriously urge that it is appreciable or sensible. When it has been developed under the influence of conception, it is not so dense or compact as when unimpregnated, and it then assumes much more perfectly the character of a muscle, than at any other time, and than the middle arterial tunic.

As it respects objections founded on the action of the iris, they must at this time be considered as totally destitute of validity, since it appears that the question respecting the muscular fibres of the iris is decided in the affirmative by the microscopical observations of the accurate and indefatigable Bauer; Berzelius also asserts that the iris has all the chemical properties of a muscle, and, as Bostock has said, another consideration sufficient alone to prove the muscularity of the iris, is deduced from the fact, that in certain individuals the motion of this part is under the control of the will; we are informed, he observes, by Dr. Roget, that this is the case with his eye.

The density of the heart may be objected, but it is known to every anatomist, that the density of this organ is very different from that to which we have just alluded. The fibres of the heart are soft, round, and possess but little resistance after death; cellular tissue is very manifest in its parieties; it contracts and relaxes, and is in fact possessed of all the great characteristics of muscle, while the most imperfect parallel cannot be drawn between it and the middle arterial tunic. The cellular tissue of the heart is, in general, the chief, if not the exclusive seat of inflammation in carditis, an affection, I believe, that has never been known to exist in the tunic under consideration. All the muscular tissues, moreover, possess for a considerable time subsequent to death, when under the influence of galvanic irritation, the faculty of sensible contraction; while on the contrary, when not only the human arteries, but those of every other class of animals have been exposed to the action of the strongest agents, no such phenomenon has been observed. Indeed, amongst the tissues conjectured muscular, the arterial has constituted the only exception, which seems, as far as human testimony can be relied on, to be positive and irrefragable evidence of the opinion we have espoused.

Martini, in his Elements of Physiology, embraces the muscular doctrine of the arteries, and the objections urged by him against the opinion advanced in this paper, are as follows; but I have no hesitation in saying, that the proofs he advances, though an able and ingenious physiologist, are far from disproving what he has attempted. He says, and very correctly, that the heart and arteries become ossified and aneurismal, but this circumstance cannot prove that they have an identity of tissue, for the muscular and cartilaginous fibres, &c. sometimes receive ossific deposites, and yet no one has contended that they are endowed with an identity of structure or nature.

Ossification of the heart and arteries is referred to the common membrane which lines their cavities, and not to the pretended muscular tunic.

The irritability of the arteries has been admitted and rejected by a number of authors, who have affirmed or denied the facts upon which it was pretended to be established. The facts adduced by Martini, are certainly susceptible of being controverted. In the case of syncope, which terminated fatally, he says, that four hours afterwards the arteries pulsated, notwithstanding the heart's action had been arrested. But how was it possible to be correctly informed that the action of this organ had ceased, when the chest was not opened? Now it appears to me evident, that its action must have continued in order to have produced this remarkable and almost incredible phenomenon, and it requires no great exertion of thought to conceive that this might have taken place in so feeble a manner as not to be detected. In fainting, John Bell judiciously observes, the heart is not felt to move; and yet it moves, and the blood circulates; how else could a person lie in an hysterical faint for hours, I had almost said days? The same doubtless takes place in those pretended cases of perfect ossification of the heart, and the wonderful instances quoted by Wethers, in his treatise on the disorder of death, among which the most astonishing is that of the Parisian actress, who reduced the art of dying to such perfection, that she was actually carried to the grave three different times before she was able to recover herself.

That the heart ever becomes so completely ossified as to render it a motionless and passive organ, I am not disposed to credit even on the highest authority; for a propelling agent is admitted by every physiologist to be a sine qua non whether his peculiar notions lead him to believe its impulse to extend an inch, or to the minutest arterial ramification. Indeed, were we to admit in the fullest extent sensible organic contractility to be a property of the arterial tissue, it would still be impossible to conceive that the heart could become perfectly ossified without irreparably injuring, without at once arresting the circulation, for there is no apparatus in the arteries that could perform a function corresponding with that of the heart, consequently the blood would as readily regurgitate in the cavities of the heart, as pursue its usual and natural course into the different tissues of the body.

It is nugatory and idle to contend that the arteries are contractile, because the velocity of the blood is not diminished below an aneurismal tumour; indeed it betrays a most unpar-

donable ignorance of the disposition and arrangement of the arteries, the almost omnipotent resources of nature, to suppose that because the diseased vessel has become contracted and obliterated, the circulation must be necessarily suspended, or impaired in the limb to which it was distributed. Nature in cases presenting this character generally, by her unaided exertions, repairs the injury sustained, and restores circulation to its unimpaired vigour.

The action of the arteries in animals destitute of a heart, is supposed by Martini to evince their muscularity. But there are several important considerations to be observed here; first, it has not been proved that the vessels in such animals do act; for Lamonier says that all animals destitute of a heart are also destitute of pulsation; secondly, it has not been evinced that these vessels are arteries, for Dumas assures us, that all animals that have arteries and veins have a heart or something to represent it. This organ exists not only in those animals that have red blood, but in those that have a white fluid in its place. It is true that there are animals without the heart, such as the microscopic, the polypi, many insects and even sometimes in those human monsters in which the organs of the chest are so inverted and displaced, that nothing correlative to the heart can be discovered. Such wonders are recorded by Aristotle, Phiny, Bonnet, Hill, &c. From these facts we must conclude that the vessels of animals without a heart, are not arteries, and if they are, it is certain they do not pulsate; and that in monsters destitute of it, pulsation has not been evinced.

The pulsation of the arteries has been considered as offering a strong argument in favour of the muscularity of the arteries; but this we are persuaded is not only independent of any muscular effect on the part of the middle tunic, but entirely disconnected with the arterial parietes. It is asserted by Haller that ossified arteries will pulsate when neither susceptible of contraction nor dilatation; it is well known that the aorta has been ossified throughout its whole extent, without affecting the circulation; it is naturally bony in the sturgeon; and Petit says, that in one instance in which the leg was amputated, all the arteries of a certain caliber were in a state of ossification.

When I have exposed the largest arteries, found near the surface, such as the carotid and femoral, so far have I been from discovering alternate dilatation and contraction, I have never been able to detect the most inconsiderable motion in their parietes. Indeed, according to the confession of Fodere,

one of the ablest advocates of the contractility of the arteries, any motion in these vessels is exceedingly difficult if not absolutely impossible to be detected. This distinguished Frenchman says, that when an artery is placed between the legs of a pair of compasses, he could perceive no variation in the distance comprised between one of them, and the parietes of the vessel; Lerminier asserts the same, and I have put it to the test of experiment with a similar result. Fodere also observes that the pulse is not appreciable, if we press an artery when there is no locomotion in it, and this also, I assert to be true. Pulsation in an artery can never be detected, but when we press so forcibly as to encroach upon its caliber; hence the sensation of the successive waves of blood is sensible in proportion to the degree of power with which compression is exercised and this is more obviously the case when an artery passes over a bone, as is observed in the radial, the temporal over the forehead, and the sub-maxillary, where it passes over the under jaw bone. It must, therefore, appear evident that muscularity has nothing to do with the pulse; if one of the larger arteries be divided and introduced into the aorta of a dead animal, or indeed into any inert tube, the blood will be observed on compression to flow through the latter with a distinct pulsation and to escape by the orifice at the extremity per saltem. I injected a very large amount of water, coloured with ink, into the aorta of a dog, this injection was so successful as to pass abundantly into the veins, when the arteries were very full, and an assistant still forcing in the coloured fluid, I could, when I pressed on the iliacs, discover a distinct pulsation though I could not observe any motion in their parietes. I have been repeatedly convinced of this, by compressing the leathern pipe of a fire engine, when a very distinct impulse may be felt against the side of the tube in contact with the hand, and this is perfectly synchronous with the stroke of the engine. This is not unlike an experiment performed by the celebrated Harvey. He says that when water is thrown into the intestines of an ox, so as to distend the portion filled, the impulse of any body touching one extremity is immediately transmitted to the other.

In consequence of the arteries being generally found empty after death, it has been contended that they possess a propulsive power underived from the heart. This conclusion is evidently unsustained, for while the arteries that are certainly not muscular, are generally found destitute of their usual amount of blood, the right ventricle, though formed of one of the most powerful muscles in the body, as well as the pul-

monary artery, are gorged with blood. That the arteries have but a very subordinate part in propelling their contents into the veins after death, must appear evident from the following experiment. I exposed the external iliac a little below the bifurcation of the aorta, divided it, and inserted into it a tube eight inches long, and then inserted the other end into the crural artery, and secured the tube at both ends so fast as to prevent the oozing of a single drop of blood. The tube was semi-transparent, and the blood could be seen distinctly by the naked eye, passing through it with considerable velocity. The animal was then killed by a stroke upon the head; while expiring, he was prevented from making any convulsive effort that might have tended to detach the tube from its situation. Six hours after the animal had expired, I opened the aorta from the left side of the heart to the distance of three inches below the inferior end of the tube, and found that the vessel did not contain more than one-third, if as much of its usual quantity of fluid, nor was there observed a greater amount of blood in the inert tube that I had inserted, than the same length of the vessel of the opposite and uninjured side.* That the effects of the arteries in expelling their contents after death are confined to the very limited and humble exertions of contractility of tissue, or elasticity, together with a kind of feeble vibratory or oscillatory motion, transmitted along their parietes from the heart, I am fully persuaded, from the facts and phenomena which have come directly under my own observation. Indeed, the experiments of Mr. Robert Hunter, which he thinks evinces that the vacuity of the arteries after death is attributable to the three following causes, do not by any means authorize his conclusions. First, to the contraction of the arteries; secondly, to the suction power of the right side of the heart; and thirdly, to the natural resilience of the lungs. For it has not been proved that they are endowed with sensible organic contractility; on the contrary, the mass of evidence tends to esta-

* Since the above was written, I opened the chest of a large dog, tied all the vessels attached to the heart; immediately cut it out. Some time after the dog had expired, I examined the arteries and veins. The aorta, for four inches from the heart, was entirely empty; it then began to manifest this fluid, and as it receded from the heart, continued progressively to increase in quantity, and before it bifurcated, it contained more than two-thirds its usual amount. The veins were all filled up to, and in the liver; but the vena cava, from the liver to the heart, was perfectly empty. All the cavities of the heart were empty; the pulmonary artery for two inches was empty; the small arteries and veins of the lungs were full; the pulmonary veins were nearly full to within two inches of the heart, where they contained no blood.

blish a directly opposite hypothesis, and the experiment just narrated proves that an inert tube, which is perfectly passive, may be as completely emptied as the arteries, when placed in the same circumstances. On the subject of the suction power of the heart, and the natural resilience of the lungs, I shall defer particularly examining, until the veins come under consideration. I will, however, observe, that one at least has no existence; the other does not authorize various conclusions; and thus in every respect incapable of explaining the phenomenon attempted by Mr. Hunter.

It has been asked, how does it happen that the right side of the heart and pulmonary artery are engorged with blood while the pulmonary veins and the right side of the same organ, as well as the arterial system, are empty? It is well known, that the right side is the feebler of the two; that its organization is more delicate, and that its parietes are thinner; it is also known, that it loses its power of contracting sooner than the left. In the sequel I shall endeavour to prove, that the arteries and veins directly communicate, and it is certain that the velocity of the blood is gradually and progressively diminished as it recedes from the heart. Taking these propositions as granted, I do not think it very difficult to answer the question propounded. The left side of the heart retaining its power of efficient contraction longer than the right, is enabled, together with the fibrous elasticity of the arteries, to drive the greater part of their contents into the veins; I say part, for in the experiments of Mr. Hunter and those performed by myself, these vessels were in but one instance found entirely empty. The influence which the heart has in such circumstances is in all probability very limited, but that it does impart to the parietes of the arteries a kind of vibratory or oscillatory motion, I am persuaded, for when I included a portion of artery between two ligatures, and punctured it between them, in order to determine whether or not the vessel would contract and expel its contents, I found that a small quantity did come out in a very small and feeble jet, but this was immediately and entirely prevented, by dividing the artery above the superior ligature, or the one nearest the heart. That the action which enabled the included portion of vessel to pour out blood was transmitted by the arterial parietes from the heart, I think must be admitted, when it is considered that the fluid between the ligatures could not have been affected by the impulse of the heart through the column of blood above them, as the two portions of fluid were completely separated by the ligature.

It is more than probable, that this motion is more sensibly felt at the eventful moment when the blood is passing out of the heart for the last time, than before; for then being in contact with but a small amount of blood, and making, as is commonly the case, greater and more convulsive exertions during the expiring effort, it is reasonable to suppose, that it is more manifest and efficient. Be this as it may, it is very certain that the arteries are emptied of the greater part of their contents, and that while this is taking place, the arteries have but a subordinate part in it.

When the arteries are in this condition, the veins are turgid with blood, and the right side of the heart and pulmonary artery engorged; this arises from the circumstance of this unusual quantity of blood being for some time constantly stimulating the heart, and thus rapidly exhausting its small remaining portion of irritability. Thus situated, and over dilated with blood, it makes feeble but ineffectual efforts to unload itself; the blood is driven into the pulmonary artery under the influence of so weak an impulse, that it is unable to pervade the smallest and most minute ramifications, and it is certain, that by the time the blood reaches them, vitality is on the verge of abandoning the system. Then it is more than probable, that those laws that presided over and regulated the functions, the economy, and which protected them from the encroachment and operations of those of a physical character, yields now to the agency of those that they can no longer resist, and that are totally incompatible with life; then attraction and adhesion operate with full force; then the blood is an inanimate and stagnant fluid in inert canals.

In confirmation of this, I may observe, that when life has been suddenly destroyed; when the properties of the parts, instead of receding gradually are instanter extinguished, the arteries are found to contain nearly their usual quantity of blood. Here life has been arrested in the midst of her operations. She has not been allowed to retire gradually and in peace from the system; we do not see function yielding after function, before the wand of the great magician, but all the springs of life, at one tremendous blow, crushed into non-existence.

I will conclude the consideration of the larger arteries, by stating a few remaining arguments in favour of their muscularity, in as few words as possible, and answer them as briefly. First, it is said that when a portion of artery is included between two ligatures, and punctured between them, the vessel, by a sudden contraction, will expel the contained blood; this, however, is not true, for this experiment has been repeatedly performed by others as well as myself without success, and

I am convinced it will never succeed, if the vessel is divided above the ligature nearest the heart; secondly, in certain circumstances, when under the influence of particular passions, the blood appears to experience a retrograde motion, and return to the heart;—thirdly, in some diseases, the pulsations of the arteries do not correspond with the contractions of the heart, and sometimes the pulsations of one artery do not coincide with those of another. These objections may be answered satisfactorily in the following manner. First, diseases of the heart invariably disturb the regularity of the pulse, and those of the arteries occasion no alteration in the action of the heart; secondly, the moment the heart ceases to beat, the arteries cease pulsating; thirdly, nearly all the large arteries have been found in a state of ossification and this too, for a considerable length of time before death; fourthly, in cases of asphyxia where respiration has ceased, where the pulse is no longer discoverable, and when the blood is in a state of inactivity and repose, the action of the heart is no sooner restored to its wonted vigour than the circulation recommences in every part; fifthly, the red-blood issues per saltum, and when it is rejected from the vessel in greatest abundance it does not correspond with the pretended contractions of the arteries, but with those of the heart; sixthly, the simultaneousness of the arterial pulsations is universal, and how could this be the case, if these pulsations did not recognize one and the same cause; seventhly, no animal presents arterial pulsations, that has not a heart. This fact which is known and admitted by every physiologist is the most conclusive evidence that can be offered in favour of the hypothesis here espoused.

The facts just stated in behalf of the muscularity of the arteries were without a single exception taken in disease and all those in answer save asphyxia, in a perfect state of health; now supposing that they have all been equally accurately described, and faithfully narrated, does it not follow as a necessary and unavoidable consequence, that the arteries have a very subordinate, if any influence in the circulation of the blood. In addition however to what has already been said, there is a fact connected with this subject of a very important character, and should not by any means be passed by unnoticed. What I allude to is the resisting power of the arteries; it is very certain that their tissue resists longer and with more firmness, the corrosive action of cancer, than any other tissue in the body. Were it not for this circumstance the arteries by participating in adjacent affections would be perpetually thrown into the most tumultuous disorder. By the great

Bichat, it is with truth remarked, that it was necessary that the organic powers of the arterial tissue should be to a very limited degree developed, in order to prevent them from being involved in neighbouring diseases, so that by this means the integrity of the circulation might not be disturbed. What would be the result, if the arteries were as susceptible of participating in the morbid action of surrounding parts as the other organs of the economy. Situated as they are, at all times in the vicinity of inflamed parts and frequently embedded in pus, a general and irreparable derangement of the circulation must be unavoidably produced. Suppose the arterial tissue to be as susceptible of being excited into irregular and morbid action as the bowels; a contraction something more considerable than natural, in one of the chief arterial branches, or even in a considerable mass of capillaries might possibly operate diametrically opposite to the impulse of the heart, and thus effectually arrest the circulation. In the bowels there would result from this phenomenon nothing more than vomiting; in the arteries the result would be very different indeed, sudden and unavoidable death would be the inevitable consequence. The circumstance therefore of the arteries possessing but little, if any irritability must be considered a most wise and excellent provision of nature, for if it were otherwise we would observe every thing but uniformity and regularity in the circulation, health and harmony in the functions of the animal economy.

Capillary Vessels.—No one will be surprised when I assert that I have had considerable difficulty to comprehend modern physiologists, when they inform us that the series or collection of vessels designated by them under the name of *capillary system*, is a system of vessels situated between the vascular systems of red and black blood, and that it constitutes the limits of these two systems. The existence of this imaginary system of vessels can never be credited, when it has been satisfactorily proved that the arteries terminate directly in veins. How is it possible for any one to rationally contend that the action of the heart terminates at the commencement of this system, when actual experiment has evinced that the venous circulation is arrested, the moment the heart ceases to beat, and is restored again, the moment this organ regains its accustomed action? Moreover what positive evidence have the defenders of this system of vessels, to authorize them to assign to it, properties that are absolutely incompatible with the arterial tissue, and perfectly identical with those of another system of vessels that do not perform in any one respect

the functions of a blood vessel. I assert without fear of involving myself in error, that the facts adduced and the reasoning offered in favour of this system of vessels and its pretended properties are vague, equivocal, unsatisfactory and I had almost said gratuitous and unfounded.

Do not the experiments of Magendie and those performed by myself, and the case of Homberger, evince clearly that there is no intermediate system of vessels in which the blood circulates independent of the heart; do they not positively prove that the arteries directly and immediately terminate in veins; on this subject it appears almost like a work of supererogation to adduce additional evidence, for an amount of unimpeachable proof could be accumulated that would laugh to scorn scepticism and unbelief. But more ample and thorough conviction may be looked for by some, than what may be deduced from the above proofs; I will therefore confine myself to a few more facts without being particular in the choice of them.

The discovery of the communication that exists between the arteries and veins, appears to have been originally made by Malpighi. This distinguished man, by his microscopical observations, disclosed the knowledge of their anastomoses. In 1690, Leuwenhoek observed the same phenomenon, by using the same instruments. Indeed, this fact appeared so evident to him, that he was unwilling to admit any distinction between the arteries and veins; for, he says, it is impossible to determine where the former terminated or the latter commenced. He was so firmly wedded to this opinion, that he denied that secretion could be explained in any other way, than by admitting that the most attenuated serous humours transuded through the parietes of the most delicate and minute arterial ramifications; an opinion which was afterwards adopted, for the same reasons, by the illustrious Mascagni.

In consequence of Leuwenhoek having experimented on fish and amphibious animals, the doctrine of the continuity of the arteries and veins did not appear to be established on a firm basis. Cowper therefore determined to repeat the experiments of the Holland naturalist on animals that approximated nearer to the structure of man, and he was enabled to see the blood pass with considerable velocity from the arteries into the veins of a cat; the same phenomenon was observed still more clearly in the dog and fox. Since the experiments of Cowper were performed, many other anatomists have verified the results obtained by him, by Malpighi and Leuwenhoek. Of this number, it will be sufficient to mention Cheselden, Haller,

and Spallanzani; and if we add to these proofs derived from experiments on living animals, those that have been furnished by injecting the dead body, we may subjoin that of Ruisch, de Graef, Vieussens, Haller, Mascagni, and a multitude of others, have in a great variety of experiments on almost every part of the body, been able to make their injections pass with great facility from the arteries into the veins.

It must appear evident, from the facts and morbid phenomena stated, that the arteries and veins are continuous; that the blood forms one uninterrupted column, from one ventricle to the other, and that the idea of a general or local capillary system has no existence in nature. It is absolutely necessary that the movements of the circulation should be regular and uniform in order to secure the integrity of its own functions, those of every other organ, and even the continuance of life. In order to effect this, it must appear obvious at once, that the blood which during one pulsation has passed from the arteries into the veins, must return in the same quantity and in the same time from the veins into the arteries. If this does not take place, there must unavoidably ensue very soon an engorgement of the veins. On the contrary, there will ensue a somewhat similar engorgement in the arteries, if, during a second pulsation, there should return from the veins into the arteries, a greater amount of blood than passed from the arteries into the veins during the first. When we are convinced of the effects of such a morbid state, are we not immediately directed to the long train of diseases, the multitude of disasters to which every individual is daily exposed, when health is the result of the harmonious cooperation of a system that has no connection in its parts; when the system of circulation, although united by a common centre, is regulated and governed by different laws, and whose respective fluids are propelled by as many different impulses, that can never harmonize and correspond. Such is a plain and unexaggerated picture of what the circulation would be, if there did really exist a system of vessels between the arteries and veins, a system entirely independent of the action of the heart, and in which the blood moves in every direction, under the control of the various and numberless modifications to which sensibility may subject it.

In the appropriate language of Magendie, the opinion that the blood circulates in the capillary vessels independent of the heart, is extremely convenient in physiology; after the vital properties, there is nothing which more facilitates our explanation of the most obscure phenomena. No one, how-

ever, except Sir Wilson Philip, has pretended that he has witnessed this action of the capillaries. I will venture, notwithstanding the fame of his great name, to doubt the accuracy of his optics, and I affirm, with great deference to his opinion, that the experiments which reading his, induced me to institute, do not in any respect confirm.

In the first place, he, in my humble opinion, was guilty of more than one oversight, in his experiment on the rabbit. He discovered the blood moving with great velocity, in the mesentery of this animal, after it had been killed. This was seen, I presume from the manner in which he narrates his experiment, immediately after it received the stroke. This I am not disposed to doubt, but it should be recollected, that the heart pulsates some time after voluntary motion is lost —that he neither extracted the heart, nor divided the aorta, though he tied it. Now it can scarcely be doubted but that the impulse of the heart may be extended to the different parts of the system, notwithstanding the caliber of the aorta may be obliterated. When we recollect the truly astonishing experiment performed by Sir Astley Cooper, in which he tied the descending aorta of a dog a little below the heart, which dog lived for twelve months, and was then killed in order that the state of the vessel might be known. Secondly, I think it was an important step in the experiment to have divided the vessel above the ligature, or have removed the heart, for this reason, in the experiment which I have already detailed, the heart evidently exercised an influence, notwithstanding a ligature intervened, but which was removed by dividing the vessel. These obvious errors are alone sufficient to induce me to doubt the accuracy of his conclusion, as it regards this particular experiment, but as the experiment on the frog was certainly much better conducted, and more to be relied on, I determined to vary it, in order, if possible, to confirm or completely refute his results.

I removed the integuments on the thigh of a dog, and exposed the muscles and crural artery, passed two ligatures around this vessel, and divided it between them. I then threw around the thigh a cord, and embraced it so strongly that its usual magnitude was very much reduced; I then made an incision into a muscle parallel with its fibres; it did not bleed. I then half divided it transversely; it still did not bleed; I loosened the cord, and the blood poured out in considerable quantity; the cord was again tightened, and the blood which began to coagulate on the surface of the wound, was sponged off; it did not bleed; the cord was loosened,

and the same phenomenon as before witnessed, was again manifested. I was somewhat surprised to find that when the cord was either loose or tight, there was not the least bleeding from the incisions parallel with the fibres.

Sir Wilson Philip says, "a ligature was thrown round the vessels attached to the heart of a frog, and the heart was then cut out. On bringing one of the hind legs before the microscope, I found the circulation in it vigorous; I could not distinguish it from that in the web of a healthy frog. It continued in this state for many minutes, and at length gradually became more languid."

"I opened the thorax of a very large frog, tied all the vessels attached to the heart, and then cut out the heart; I immediately cut off about half of one of its hind feet, and when brought into the field of a microscope, not the least particle of blood could be discovered on the stump, and there was not the least redness upon it, except at the point where the large vessel was divided. I then cut off the foot of an uninjured frog in the same place, in order to compare them; the stump was in a moment covered with blood."

If there has been no error committed in these experiments, it is very evident that they lead to conclusions diametrically opposite to those of Sir Wilson Philip; but as there is an error, or something worse, on one side or the other, I shall forbear any farther comment, and permit those who may read them, to draw their own inferences. Taking these experiments out of the way, I will admit, for the sake of argument, that he is correct, and that there does actually exist capillary action; in what does it consist? is it, in the language of Magendie, a greater or less degree of contraction, by which the blood, with which they are filled, is forced forward? In contracting from their elasticity, they would undoubtedly propel the blood, but can any reason be assigned why they should direct it rather towards the veins, than arteries? finally, when the small vessels are once emptied, how would they be filled again? this can only be by the force of the heart propelling the blood into them, or else, from their dilating in such a manner as to attract this fluid from the neighbouring vessels; according to this supposition it would be as likely to attract the blood from the veins as from the arteries. If we admit, therefore, as a position, which is merely gratuitous, that the capillary vessels dilate and contract themselves alternately, we still should not be able to explain the function attributed to them. That they may perform this function, it would be necessary that each capillary vessel

should be arranged in a manner analogous to the heart, that it should be composed of two parts, in which one dilated while the other contracted itself, and that there should be between them a valve, analogous to the mitral valve. Yet, even with this complicated apparatus, the course of the blood in these vessels would not be uniform.

The confidence with which those very physiologists who deny irritability to be an attribute of the larger arteries, speak of it as a property of the smaller, would almost induce us to consider it no longer a debatable point. But it seems very singular indeed, that vessels should, without sustaining any change or alteration in their organization, present in their different portions properties that are manifestly dissimilar. No anatomist has ever been able as yet to point out any difference of structure; indeed, if a difference could be established, it would at the same time be established, that what are called capillaries are no longer arteries, and consequently do not perform the function of an artery, that is, they do not circulate blood; for it is an axiom in physiology, as firmly fixed on its basis as any principle connected with the living economy, that difference of organization always gives rise to difference of function.

On this very point, Magendie instituted a series of experiments, in order to determine, if possible, if they were not possessed of the properties attributed to them. He submitted a great number of these small vessels to the action of the same agents that he had those of a larger size, and so regulated his operations that he might be enabled to detect the slightest motion; but all his precaution and industry were ineffectual, for he was unable to detect the slightest indication of irritability, when they were acted on by the scalpel, caustic, and galvanism. These are his own words: J'ai constaté par expériences directes, que dans aucun point les artéres ne présentent d'indices d'irritabilité; c'est-à-dire qu'elles restenit immobiles sous l'action des instrumens piquans, caustiques, et du courant galvanique. From this then, we may consider ourselves authorized to conclude, that irritability is neither a property of the larger nor smaller arteries; and although the smallest artery may be so exceedingly minute as to escape the most attentive observation, we are compelled from the experiments of this distinguished Frenchman to believe, that the progressive and gradual diminution in the caliber of an artery, has no influence upon its structure or peculiar properties. This belief is sustained by the fact, that a very moderate amount of irritability answers much better the various,

complicated, and mysterious purposes of the economy, than if they had been more bountifully supplied; for if they possessed great susceptibility, it would oppose obstacles to the free and regular circulation of the blood, by enabling them to divert it from its accustomed channels.

It has been asserted that the smaller arteries are muscular, because they have stronger coats. This is erroneous; for the coats of the smaller branches are even thinner than the larger; and when it is said that they are stronger, it must be understood comparatively as to the diameter of their canals. This strengthening of the extreme branches is intended merely to enable them to resist the impetus of the blood; since, if their parietes were to diminish in thickness with the size of their cavities, they would, towards the extremities, be so thin, that rupture would necessarily be a frequent accident. The same thing may be also observed at the bifurcation of the arteries, or when a branch is sent off, there always being an interlacing of fibres at the point were they divide, that being most exposed to the current as it flows from the heart.

In concluding what we have to say on the subject of the capillary systems, I will observe that Bichat has been guilty of a palpable contradiction in the exposition of it. The somewhat peculiar manner in which this great man was in the habit of viewing these systems led him to advance that the circulation of the blood in the capillary vessels of the lungs is as in every other part under the influence of the tonic forces of the part, and independent of the impulse of the heart which he says terminates at the extremities of the pulmonary artery. But how is it possible to conceive that the impulse of the right ventricle can be expended or exhausted in this short distance. This objection presents itself so naturally to the mind, that Bichat himself while endeavouring to explain how the equilibrium is kept up between the pulmonary and general capillary systems did not recollect that he denied the influence of the heart, the capillaries, and gave among other reasons, this, that in the pulmonary capillary system, there is but a single impulse, and a single direction, and that the proximity and distance of the heart are also a real cause that tends to establish the equilibrium between the two systems. But how can the proximity of the heart accelerate the passage of the blood through the pulmonary vessels, if its action is arrested at the commencement of the capillary system. There is in this reasoning, an obvious contradiction which cannot be avoided until we denounce as false and un-

founded, these imaginary systems. The arteries and veins of the lungs, anastomose in the same manner as they do in other parts of the body, and the blood forms in the lungs a continuous column precisely as it does in the great circulation. This view will enable us much better to comprehend the velocity with which this fluid passes through this organ, and prevent us from being involved in contradiction and absurdity.

When the arteries have been dilated by the contraction of the heart, they are enabled by the double agency of elasticity and a vibratory motion transmitted along their parietes from the heart, to contract with sufficient energy to force the greater part of their contents into the veins. It cannot be believed, if what has been advanced deserves credit, that they during life have a sensible influence on the circulation of the blood either in the large or small arteries. No intervention of irritability seems to preside over or regulate this function, and the mass of evidence possessed on this point directs us exclusively to that obscure and feeble sensibility which we regard as indispensable to effect the circulation. Likewise, we are impressed with the belief that it has been established in this essay that the circulation is uniform, gradual, and subordinate to the action of the heart, at least in the vessels already had under consideration.

Veins.—We have now only to enter into an investigation of the agency which these vessels have in the circulation of the blood. As much discrepancy of opinion, wild speculation, and lawless conjecture have existed on this subject since the ever memorable and eventful days of the immortal Harvey, as upon any other point connected with this highly important and interesting function. But amidst the conflicting opinions on this difficult point, that which espouses muscular contraction or pressure, and that of the suction-power of the heart may be compared to Aaron's rod, for while they have swallowed up every other, they have rode with supreme ascendency over the minds of the great majority of physiologists.

The organization and properties of the veins compared to the arteries present some very remarkable differences. They are it is true composed of three tunics, but the external cellular has but little sensibility; the middle is not so thick and is composed of circular and longitudinal fibres that are sometimes apparent, it is besides very extensible like the internal membrane as is evinced by injections which may triple, quadruple their ordinary caliber without occasioning a solution of continuity. The last tunic is very smooth, polished and de-

licate, but is susceptible of being much thickened in varices, and is rarely incrustated with phosphate of lime. The veins are furnished with valves but they are most abundant in the superficial.

What agency do the veins exercise in the circulation of the blood? by what mechanism is the fluid which prevades them carried from the cappillaries to the heart? It has been demonstrated that the opinion which circulates the blood in the small vessels independent of the heart, is incompatible with the ruling facts and phenomena presented by this great function; thus, for the strongest reason, the same organ which moves the blood through the capillaries into the veins should carry it from their minute branches to the heart. How shall we explain the experiment performed by Magendie and those by myself if the heart is not the chief and only organ of the circulation in the veins? What other plausible explanation can we give of the cases of Homberger and myself? None, they are conclusive.

It has been asked, do not the veins themselves contract to a certain degree? If they do, it is in a very limited manner, for I have never been able to detect any sensible constriction in these organs. Indeed some individuals pretend to have observed distinct motion in them; this is the case unquestionably when respiration is convulsive and embarrassed, but these are movements of the whole, and not the partial motions of contraction; they arise from the reflux of blood, and not from the sensible contractility of the veins, from which it follows, as a necessary consequence, that if the veins act upon the blood it is insensibly; since it is almost certain that the heart is the chief source of the motion of the blood in the veins, and this is favoured by the arrangement of the valves.

What influence have the muscles in the venous circulation? If they have an agency, it must be multiplied, not unique, they must be irregular, not uniform and at once. But I ask, how is it possible for this function to go on so uniformly regular, if there is more than one agent governing it? The pulse is subject to but few changes, and these are resolved into increased and diminished velocity of the blood, and I do contend that it never does and never can experience an irregular, intermittent action, unless the great centre and sole mover of the vital current is impaired in its integrity. But what would be the result were the venous circulation under the control of the sudden, irregular, intermittent, and unequal action of muscular pressure? During the moment of contraction, the velocity of the blood would be accelerated,

and in another moment of time, when the muscle becomes relaxed, it would be retarded. The blood, when it pervades the veins in such various degrees of velocity, and irregular quantities, would never arrive at the heart in any specific quantity, or with any stated momentum. The valves, it is true, in the superficial veins would, perhaps, prevent the retrograde action of the blood; but I ask, is there in the capillary and visceral veins any organ or apparatus to answer a similar purpose? In the latter, pressure would as readily drive the blood from as towards the heart. Take a tube full of water—close it at both ends—then perforate the end with a number of little holes, and press in the middle of the tube, and the fluid will issue in an equal number of small streams from either end. Moreover, the increased momentum of the blood during the detraction of blood, when the muscles of the arm are contracted, does not arise alone from their direct pressure on the veins; for I have repeatedly observed, that when they are contracted so as to act efficiently on the veins, they operate, though more partially, precisely as any other species of exercise; that is, by increasing, however inconsiderably, the action of the heart, and consequently that of the circulation. During such contraction, I have observed, though not very sensibly, an acceleration of the pulse, which was perfectly synchronous with the efforts of the heart. I have exposed the superficial veins of the legs, from the groin as far down as I could conveniently, dissected up the large veins, and passed a chord under them and around the thigh, punctured one of them, and the blood issued in a beautiful stream, though unaided by the integuments or muscular pressure, for it was out of the reach of such influence. The animal was held perfectly quiet; the cord was then tightened, and the stream was immediately suspended. The arteries are equally as liable to be influenced by the muscles as the veins; their irregular efforts, therefore, should prevent their own pulsations and those of the heart from corresponding; but this never takes place. During sleep, it is true, the velocity of the circulation is diminished, but this is very inconsiderable; the muscles then are in a state of relaxation—they can have no influence in such circumstances, consequently the circulation should be nearly, if not completely arrested. When ardent spirits, or any other article, has been administered to facilitate the reduction of hernia, and luxated bones, the muscles are frequently in a perfectly passive condition, and the strength in a state of ultra prostration, the circulation should be suspended; but this phenomenon never takes place, but in those

unfortunate instances, that sometimes terminate fatally. From these considerations, I am induced to believe that the agency of the muscles in the circulation of the blood in the veins must be of a very subordinate character, and it appears obvious, that if nature had intended them for this purpose, she would have arranged them so as to enable them to exercise a more constant, uniform, and regular influence; that, if she destined them in their present condition, to act an important part in this function, she would of necessity have made an irregular distribution of the blood to have answered the purposes of the economy; but all the phenomena connected with the circulation disavows any such intention.

What agency has the right side of the heart in circulating the blood in the veins? much has been said, and not a little written on the dilating power of the heart and the resilience of the lungs. Those powers, says Sir Wilson Philip, are not imaginary. Very simple experiments prove their existence, but I believe it will be with some surprise that every one will, for the first time, examine the foundation of the inferences drawn from them, when it is considered by what men those inferences have been sanctioned.

Of the tendency of the lungs to collapse, I have no more doubt than the author just quoted, but on the subject of the dilating power of the heart, I fear we shall be far from agreeing. The noted experiment of Dr. James Johnson, which he refers to with so much confidence, is, certainly conclusive, could we be convinced that no fallacy or mistake had crept into it. I am sorry to say that a similar experiment performed by myself, did not evince the existence of that power which is so satisfactorily proved by the one just alluded to. I divided the aorta of a dog, a very short distance from its valves, divided all its other vascular attachments, and immersed it in luke-warm water; it contracted repeatedly, but feebly, after it had been immersed; but no circumstance manifested itself which would justify us in supposing that it had drawn in a particle of the fluid during its diastole, or that it expelled any during its systole; it did not impart the slightest tinge to the water. If we grasp the heart of a dog while it still remains attached to the body, we will find that during its contraction there is very marked and obvious resistance, and that during its relaxation it is soft and compressible. I have repeated this experiment frequently on the heart of a frog. I opened the thorax of a very large frog, tied the superior vena cava as near the heart as possible, and threw another around the inferior, just above the liver, so that the heart could not receive blood through any

other channel but that of the vena azygos ; the heart continued to contract with increased frequency and violence, but the blood in the vein between the liver and the heart did not seem to diminish in quantity. This continued for several minutes, when I held the inferior vena cava almost perpendicular, in order to facilitate its entrance into the heart, but no change ensued, I clipped a piece out of the parietes of the vessel with a pair of scissors, as near the ligature as possible, in order to ascertain the condition of its contents, the blood issued from the opening until it come to a level with the orifice, and remained stationary ; the action of the heart kept up a perpetual undulation in the blood, but it did not receive a drop. Macfadyen observes on the same subject, that one of the large veins in the abdomen of one of the inferior animals was detached from its connexions, and a ligature applied. If in this state it had been replaced, and the wound brought together, there can be no doubt but that it would have become empty. By preventing however any pressure, it remained unaltered, continuing seemingly as full as when the ligature was applied. In another case, the *vena cava abdominalis*, shortly below where it passes under the liver, was exposed, and an opening made into it by removing a small portion of its coats, a ligature having been previously applied below the place where the incision was made. A determinate quantity of liquid was then introduced. At the end of ten minutes it was returned, but little diminished, though every care was taken that the passage to the opening in the vein should be free and unobstructed.

But admitting the dilating power of the heart, this power cannot be aided to any extent by the resilient power of the lungs. In many of the inferior orders of animals and fœtus, this agent cannot operate at all ; and even if it does extend to the rest of the system, the vena porta is beyond its reach. Receiving blood from the mesenteric arteries, uniting into one trunk, which, entering the liver, is there again divided, and spread into minute ramifications, the motion of the fluid which they contain must evidently be beyond the influence of this power.

It has been observed that the suction power of the heart cannot operate in certain conditions, it is equally true that if it exist at all, it is very inconsiderable in the most perfect animals. It appears from one of the experiments of Dr. Carsen, that it is not equal even in the bullock, to the pressure of a column of water of ten inches, a power evidently insufficient to circulate the venous blood.

What is the effect of an exhausting syringe adapted to a tube filled with a fluid? it is evident that were we to attempt to draw up any liquid, by means of the common pump, through flexible tubes, their sides would collapse as soon as the weight or resistance of the liquid would exceed their elasticity. Of this, any one may convince himself, by merely attempting to draw up water from a vessel through a tube of moistened paper, the sides collapsing long before even the air is exhausted. The same thing would take place, were the heart possessed of a suction power, the sides of the veins uniting and becoming impervious as soon as its action began.

Besides this, it is another maxim in hydraulics, that the resistance is always in proportion to the diameter. If it would be difficult to raise water by means of a pump, through a pipe of a four-inch bore, it must be almost impossible to accomplish the same, if the diameter were only an inch, and perfectly so, if you diminish it still farther. Now, as it has been already proved, that it would be impracticable for the heart to draw the blood through the *vena cava*, what shall we say, when we turn to the more minute branches—the origins of the venous trunks? The principle laid down will apply still more strongly here, since, even did the auricle succeed with the larger vessels, it could have no influence over the more minute ramifications.

As a concluding argument, it may be observed, that were the heart endowed with the power of sucking back from every part of the body, the blood which the left ventricle had discharged, it ought evidently to be at least of equal strength. On the contrary, whilst the latter is amongst the strongest muscles of the body, the former may be reckoned amongst the least powerful. We are even inclined to doubt whether its action is absolutely necessary to the expulsion of the blood into the ventricle, since, were it possessed of any strength, the *vena cava* being destitute of valves, a portion at least of the blood would, on each contraction, be driven back into the veins. The blood, therefore, passed into the ventricle, urged not so much by the contraction of the heart, as by the current of blood which is pressing forward to the same point from every part of the venous system.

Having protracted this essay much beyond the limits which I originally contemplated, I will forbear making any additional comment on the experiments and facts stated, and leave the reader to draw his own inferences, and conclude by observing, that I was assisted, in nearly all of them, by Messrs. Jones and Catching, promising medical students, and in the presence of a number of other individuals.

ART. II. *Medical and Pathological Cases.* BY T. V. WIESENTHAL, M. D., U. S. N., Member of the Medical and Chirurgical Faculty of the state of Maryland, Honorary Member of the Boylston Medical Society of Massachusetts, and of the Medical Society of Maryland, &c. &c.

A PHYSICIAN is capable of being serviceable to society in two ways; by the immediate exercise of his profession, and by communicating such facts as he may have noticed, such observations as may enlarge the general stock of necessary knowledge, and contribute to the information of others. There is perhaps no species of publication more conducive to the healing art, than those records in which diseases are represented under that novelty, variety, and inconstancy of character, which they so frequently assume, and which more than any thing else tends to confound the judgment of the practitioner, and render his efforts often precarious and uncertain; evils which are often fatally experienced. One single work of the records of medical facts, has done more for the advancement of medical science, than all the immensity of frivolous and unfounded hypotheses with which the press teems without ever coming to any true conclusion; what has gained immortality to the name of *Hippocrates?* Not his speculative opinions, which are for the most part false and ridiculous; but those faithful observations the result of a close and attentive application to facts. Syndenham for this reason, will ever live revered in the memory of every physician to the latest ages. With these views and impressions I forward the following cases for the Recorder.

CASE. 1st. *Intussus-ceptio.*—On inspecting the abdomen of a subject about four years old, I found in three several places as many parts of the jejunum thrust up into the cavity of other parts. The child had died convulsed and its disease the croup. There was no symptom or circumstance which indicated an obstruction of the intestines: it had taken purgative medicines freely, which operated well. Although there is every appearance of stricture in those cases, I observed what Haller and others have remarked, "that the reduction of the deranged portion of the intestine was extremely easy."

From what I have observed I am inclined to believe that these accidents very seldom, if ever happen, except at the instant of dying; and is to be accounted for, from the irregularity and disproportion of the actions of the intestinal muscular fibres. Still however it is very possible that it may occur

as a disease under other circumstances, and may be one from colic. I should imagine that it is sometimes the case when colic is attended with obstinate and distressing constipation.

Case. 2d. *Inflammation of the Heart.*—I dissected a patient who had died of disease of the thorax; on opening of which, a very remarkable appearance presented itself to my observation. The pericardium was uncommonly thickened, and upon opening it, the inside of that membrane as well as the whole surface of the heart, was covered with a flocculent membrane. The flocci were nearly half an inch in length, very thick set, and beautiful.

This adventitious membrane was formed no doubt by an extravasation of coagulable lymph, the effect of inflammation, which was the disease of which the patient died.

Extraordinary membranes of coagulable lymph are by no means rare; we see them daily as the effects of inflammation of the pleura, and in such cases they are commonly if not always organized. I have seen several similar effusions on the surface of the peritoneal covering of the intestines and on the membranes of the brain. In fine, they are liable to happen in all cases of inflamed membranous surfaces.

Case. 3d. *Croup.*—I examined the lungs, trachea, and larynx, of a patient that died of croup, or cynanche trachealis, the same mentiond in case first.—In this subject I observed that the whole surface of the trachea was highly inflamed, as far as my view reached, and that it and the bronchii were filled with a frothy mucus; but I saw nothing of the membranous substance which is found in this disease, both by expectoration and dissection, except in the larynx, which was completely lined with a white and thick membranous substance that closed the rima glottidis; and to this I attributed the suffocation of the patient.

I have met with authors and practitioners who deny this to be an inflammatory disease. These consider it as spasmodic, and they judge so principally from a circumstance that I think certainly deceives them, I mean the absence of a high inflammatory pulse. In several cases I have found the arterial action various in degree; but I never saw a case which did not give evident marks of inflammatory action in the beginning of the disease; as it declined, or as it approached to a fatal termination, these marks became less. Indeed, it very often happens that the physician is not called until the first stage of the disease has past. But there is another source of deception, of which those who deny the inflammatory nature of croup are not perhaps sufficiently aware; and that is, that

the actions of the organs of respiration, being impeded (or more accurately) the influx of the air into the lungs being impeded and diminished, the action of the arteries is also diminished, which will account for the contracted pulse, that attends the confirmed state of the disease. But that it is an inflammation of the trachea and especially of the larynx, and that it is a suffocation from mechanical obstruction, that destroys, is evinced from these facts which I have repeatedly observed, and which has been oftener observed by others, to wit, that upon dissection the membrane which lines the trachea is obviously inflamed, it is intensely red with blood; and that effusions of coagulable lymph are constantly found more or less extensive, but always sufficient to obstruct the entry of the air into the lungs in quantity sufficient for the purposes of life. I have seen patients expire with certain ease in this complaint, respiration gradually subsiding, others die convulsed. In the former I presume that the obstruction of the larynx is not complete and that life gradually ceases from a progressive diminution of the air taken in; in the latter, it is not improbable that the final obstruction is sudden and entire, which occasions the convulsive struggle of the patient.

Case. IV. *Influence of the mind on Disease.*—A man about 35 years of age who had long been subject to a scrotal hernia, that had never given him any great trouble, was attacked with a descent of the intestine in a greater degree than common; but not immediately attending to it, he found that the attempts he made to reduce it not only were ineffectual but that it became very painful to him. In this state he sent for a gentleman of the faculty, who made the usual applications for its reduction such as bleeding, fomentations, warm bath and manual application. Finding these attempts fail and his patient very ungovernable he requested my assistance.

I found the tumour very large, tense and painful, he appeared to suffer greatly: his pulse becoming weak and small, with great prostration of strength, we grew uneasy at his situation. He had had a very slight evacuation during the night, but evidently from the part of the intestinal canal inferior to the protruded part. Having in vain attempted the reduction by the hand we administered the smoke of tobacco by means of the proper apparatus, and afterwards clysters of salts dissolved in warm milk and water, but neither of these remedies had any effect whatever, we then directed pretty active doses of the sub. mur. hydrarg, with Jalap to be given at short intervals, and left him for a while. We were again summoned to see him about nine o'clock the next morning,

and from the account of the messenger (his brother,) we had no very favourable conclusion to form. He told me that the patient had sunk greatly, that he had scarcely any perceptible pulse, and that he was hardly able to articulate. Within ten minutes of the time the messenger came to me I saw the patient, and to my great surprise and satisfaction, found him completely relieved; a few minutes before I entered the room, he had been surprised by the sudden and unexpected appearance of his mother, and instantly, and without any effort or attempt towards its reduction, as he lay on his back, the intestine returned into the belly.

A remarkable case of the influence of the mind on the condition of the body is related in the "Annals of Medicine," "a woman in St. Bartholomew's Hospital, had just recovered from a typhus fever, which prevailed in London in 1798. From long lying, the nates had become ulcerated. The ulcers however looked as well as possible, discharged a good healthy matter, and were rapidly healing. At this period the woman was informed of the death of her husband, who had also been ill in the same hospital. Immediately almost the discharge from the sore became changed from a healthy puriform matter to a thin glarey one.

Case V. *Constipatio.*—A young man about 25 years of age, orderly and temperate in his manner of living, and of a pale leuco phlegmatic appearance, sent for me to visit him. He complained of a violent pain in the lower part of the belly and extending from one os ilium to the other. He had been attacked with this pain in the night of the 17th December. The belly was bound and tender, without tension on pressure; complained also of sickness of the stomach, and several times made efforts to vomit. I ordered him a common clyster which produced no evacuation, and also a purging draught which also proved ineffectual.

18th. The constipation continuing, I gave him a purgative pill, composed of calomel, gamboge, and aloes; and in the evening the pain becoming intensely great I prescribed an anodyne draught, which gave very little ease. I began to suspect that the cause of his complaint, was that spasmodic condition of a portion of the alimentary canal which is called intus-susceptio, at all events I was satisfied that it was a spasmodic affection and with this view, I combined the anodyne with the purgative; a more active clyster was also administered.

19th. I found that he had derived little or no advantage from the preceding applications, except a very small degree

of temporary ease from the anodyne. I determined to try the effect of an emetic, which I suggested upon the supposition of the probability of an existing intus-susceptio, intending thereby to invigorate the peristaltic action of the alimentary canal, and by that means, and the general compression which would be made on it, in the efforts to vomit, to release the intestine. The emetic operated, but we gained no advantage from it; nothing was evacuated from the stomach, but the matters he had swallowed: the pain rather increased, and absolutely demanded some immediate relief. I therefore gave him a drachm of spts. etheris vitriolici comp.; by this he was in some measure relieved, but the benefit was fleeting. I now ordered two ounces of sulph. sodæ., to be dissolved in a pint of warm water, and given as an enema; it did not return for some hours, and then unaccompanied with any fœcal appearance. He then took strong castor oil, one ounce and a half, and this, like all else he had used, failed.

20th. He passed a bad night, suffered much pain, and still costive. He has had no feverish symptom during the course of his disorder, nor has he suffered from thirst in an unusual degree; his skin is in a state of moderate relaxation, though rather inclined to dryness. His pulse to-day being full and strong, I took fifteen ounces of blood from the arm, and gave him ten grains of calomel, with five of gamboge; he had no operation from the medicine, and the pain became intense with sickness of the stomach at night. I gave him fifteen grains more of calomel, compounded with two grains of opium. I was satisfied that this compound was better than the calomel alone in this case, having repeatedly seen the solutive effects of opium in colica pictonum, and supposing that the stimulating effects of the calomel would be considerably aided by the relaxant tendency of the opium.

21st. I ordered another enema, consisting of sulph sodæ. ℥iij., Aq. tepida lb.j. This returned without effect, and I then gave him pulv. jalapii. ℈ij. calomel xv. grs., and afterwards put him in a warm bath. The medicine and bath were used in the evening, and towards the morning he had a very small discharge of black offensive matter, but he was not in the least relieved by it. The large doses of irritating medicines that he had taken disordered his stomach, and produced such dispiriting sickness, that he begged a suspension of their use; therefore on the

22d. I ordered another enema, of sulph. sodæ, ℥iv. injected, had him again in the warm bath, and repeated the anodyne draught. These yielding no ease, I had the tobacco

smoke administered per anum. Still we gained nothing. His situation had become distressing and deplorable, and singultus coming on, I began to anticipate a very unpleasant termination of this disease. From pain, want of repose, and sustenance, he was much exhausted and began to exhibit very unfavourable appearances. At his earnest desire, I left him undisturbed by any other medical application, except an anodyne draught at night.

23d. Every unfavourable indication was increased, and particularly the pain. I therefore resolved to make a powerful effort for his relief. I gave him ol. ricini ʒiij. and allowing it time to operate, I directed the inflation of the tobacco smoke to be repeated about the time that I supposed the oil ought to operate. To these I added a wine glass of the infusion of tobacco leaves,* to be given every two hours. I ordered the inflation to be cautiously and gradually continued, until the distention should make it necessary to desist, or until sickness or vomiting should intervene, or an evacuation be obtained; and on any event but the last, I directed him, immediately on the retraction of the intrument, to be put into a bath as hot as he could possibly bear it, in which he was to remain half an hour, if possible. These directions were exactly observed, and immediately on coming out of the water, he had a large black evacuation from the bowels, which was followed by several others, and his disease vanished.

Case VI.—While on board the United States' ship Hornet, as surgeon of that ship, and at anchor in the harbour of Havanna, I was desired by the captain of a merchantman, to visit a young man on board his vessel, who, he said, was sick with *ague and fever.*

The patient was about 20 years of age, of a thin and delicate habit, but who, having been rudely attacked with dysentery, and greatly reduced by it three or four months preceding, had afterwards a sudden and considerable degree of fulness, after his recovery. I saw him about 7 o'clock, on the morning of the 23d December, 1824. He complained of intense pain in the head; he informed me that he had been attacked the day before with an *ague*, which was followed by a severe fever; that he had had much pain in the head, and had passed a disturbed night; his fever had become more moderate, but the pain of the head continued to a great degree. At this time, I

* This infusion consisted of four drachms of tobacco leaves, to one pint of boiling water.

found the pulse but little above the natural or ordinary standard, in respect of force, frequency, or fulness; his skin dry, but temperate; his stomach free from disorder entirely; his understanding unimpaired; he bore the light without any complaint, or perceptible inconvenience, and discovered no peculiar irritability as to sound; the eyes were perfectly devoid of any visible disorder, nor did the face present any marks of congestion or intumescence. It may not be improper further to remark, that on the first day of the attack, his disorder was not so considerable as to confine him; he still applied himself to his business throughout the whole of that day. Previous to my visit, he had arisen from bed, and dressed himself, but the intensity of pain in his head, obliged him to return to his bed. Shortly after I left him, he arose, and was placed in the cabin, it being more comfortable; about this time he vomited once, and appeared to be relieved by the operation.

At 3 o'clock, P. M., I saw him again, at which time I found him apparently slumbering, but restless. On rousing him, he appeared perfectly sensible, though averse to conversation.* I understood from his attendant, that he had for some time before been very restless and agitated; but, a little before I saw him, had become more composed and seemingly disposed to sleep. His pulse at this time was about one hundred strokes in a minute, his tongue furred, but moist; he had not complained of thirst, nor of heat: the eyes, independent of a kind of drowsy heaviness, exhibited nothing peculiar. I must here remark, that although when roused, he was evidently sensible, his attention was transient, and he almost instantly relapsed into a state of stupor. Being aware that lethargic affections of the head sometimes happen in intermittent fevers, and that when they occur, they indicate great danger, I gave directions that in case my patient remained in the same state, and especially if the drowsiness should increase, to inform me of it immediately. Not hearing from him, I did not see him again until 7 o'clock.

I visited him again at seven o'clock in the evening. By this time his disease had assumed very alarming appearances. He was then, as he had been for some time before, extremely restless, and his eyes stupid. A great tremor of his hands, joined with great muscular exertion, was very remarkable; to this was superadded, a twitching of the tendons. His pulse was full, strong—slow beyond the common healthy standard.

* His silence at this time is not to be understood as an effect of incapability of articulating, for long after this he spoke very rationally.

This irregularity was not occasioned by any intermission of one or more pulsations, as often happens, but to an increased frequency of two, three, or four strokes, now and then perceptible.* It was an accurate specimen of an oppressed pulse. The skin was moist and temperate, and except the heaviness, there was no sensible peculiarity of the eyes; they were free from all appearance of inflammation, they bore the light without impatience, and their pupils accommodated their diameter, as usual, to the force of light. Nor was there any indicative appearance of the face, save what was observable in the eyes. He discovered no peculiar sensibility of sound; on the contrary, when roused, his attention was excited for some moments, and he again sunk into a state of stupor. He had not spoken for some time back, though he plainly discovered some remaining consciousness.†

At daylight, I was called to see him again, when I found his danger greatly increased. He was labouring, as it seemed, under extreme agony; his face was intensely flushed and turgid; had the same tremor of his hands, such as attends great reduction of strength, yet, as was mentioned before, he retained his muscular powers to a very considerable degree, and made great resistance against those who were employed in confining him. With all this, there was no appearance of delirium. The condition of his mind was not a morbid irregularity of its operations, joined with false conceptions and conclusions; not that erratic hurry, which properly constitutes delirium, but a torpor of its powers or faculties, a want of energy in its operations. His respiration was laborious and interrupted, the lungs being loaded by a frothy mucus; the whole body, but especially the face, under a profuse sweat.

* I apprehend that this species of pulse is often very difficult to distinguish. It arises from an unequal distribution of blood to the arteries and veins; the former having an unusually disproportionate quantity, so that they are totally incapable of emptying themselves at each pulsation. This inequality of distribution is owing, perhaps, to an obstruction of the passage of the blood through the vasa minima. A pulse very similar to this sometimes attends inflammatory disease, where no suspicion of any affection of the brain, or its membranes exists. Dr. Cleghorn, in his treatise on the diseases of Minorca, remarks, that in pneumonic inflammation, he had often found the pulse like that of a healthy person, from which he inferred great danger, and he adds to this remark, a quotation from another writer (Oconnel de Morb. Acut.) of a similar observation, which writer very properly infers, that the pulse is not always to be confided in, in inflammatory cases.

† That this taciturnity was in a great measure voluntary is certain from this fact, that so late as nine o'clock in the morning of the 24th, about three hours previous to his death, he expressed his thanks to me in a most consistent and rational manner, and asked his attendant to hand him some refreshing drink which had been allowed him.

The eyes now for the first time, exhibited signs of affection, the pupils were dilated and insensible to the strongest light. His pulse very strong and frequent, and gave a good instance of the *tense pulse*. The artery under the finger, when in its utmost contracted state, felt *full* and *hard*, like a cord tightly stretched, and its greatest degree of dilatation was small, but forcible and abrupt. I observed that, though there was every reason to believe that he was unconscious of all that passed about him, he frequently directed his hand to his forehead, pressing and rubbing it forcibly upward. At 12 o'clock he expired.

I have been thus minute in noticing every circumstance which came under my notice in this case, both because it is an uncommon one, and because it is only from a view of all the circumstances of a case, that a right judgment can be formed of it.*

Having obtained permission to examine the parts within the head, I proceeded to open it, and observed the integuments of the skull, especially those covering the os occipitale, unusually thickened and loaded with blood. On exposing the brain, I found the whole surface of the membrana arachnoidea covered with a puriform matter, and the same membrane in many places thickened greatly by an extravasation of coagulable lymph. The vessels of the *pia mater* bore evident marks of inflammation as did those of the brain. The *dura mater* discovered no appearance of disease. A considerable quantity of water was effused into the ventricles—Nothing of importance presented itself either in the thorax or abdomen, the liver was somewhat enlarged, the vessels filled with coagula, and the gall bladder full, nothing else of any consequence presented itself on the dissection.

Remarks on the foregoing case.—There can be no difficulty in assigning a name to this disease. It was unquestionably a case of *Phrenitis*; but it must be acknowledged, that this conclusion arises from appearances on dissection and not from the symtoms. The circumstances therefore which render this case singular and worthy of notice, are the insidious character and progress of its symptoms, its rapid course and termination and the very short space of time in which the morbid changes in the seat of the disease took place.

* I have since been informed, he discovered a peculiar wildness in his looks for some days previous to his attack, but that neither his health nor his senses seemed in any measure disordered. In his mode of living he was perfectly sober and regular; addicted to no habit or practice likely to produce or predispose to this disease: nor had he been exposed to the operation of any sensible cause to which one could with any certainty refer.

Nosologists, have characterized this disease with signs so strong, so plain and seemingly conclusive, that to one not aware of their falibility, to one who adopts his ideas of morbid affections from books only, it would appear impossible to fail in our judgment of it under the most superficial attention; but in fact however clear it may appear in description, the symptoms are often so equivocal; their form, force and combination so various, and their affinity to other diseases so great, that it is sometimes difficult for a judgment the most matured by experience, to determine on its existence, especially in the beginning.

It may not be unapt here to recite the character of *Phrenitis* as given by the best Nosological writers.

Phrenitis.—Est phlegmasia acuta cum Pyrexia et *Delirio perpetuo* a cephalalgia atroci plerumque incipiens; delirum quandoque est audax urina plerumque citrina cum mebula sublimi.—Vide Sagari Syst. Morb—Edit. Culleni.

Phrenitis.—Febris acuta, dolor capitis, delirium *constans et ferox.*—Vogilii Genera Morb—48.

Phrenisimus.—Vera inflammatio cerebri aut membranorum ejus; quam ex dolori capits et vehementi delirio febrili vulgo definiunt, quæ signa vera admodum ambigua.—Idem—45.

Phrenitis.—Dolor Capitis, delirium audax, vis artuum, pulsusque major, pyrexia acuta.—Sauvagii Gen Morb—101.

Phrenitis.—Pyrexia, vehemens: dolor capitis—rubor faciæ et occulorum, lucis et soni intoleranti pungillium—delirium, ferox—typho-mania.—Culleni, Gen. Morb G—IX.

Van Swieten in his commentaries on Boerhaave's Aphorisms says "there is a perpetual delirium with an acute fever attending in a true phrenitis, and this delirium is commonly fierce and raving," but he adds, "this fierceness does not always attend."

A comparison between the symptoms which presented themselves, in the case recited, and the character given in these quotations, shows distinctly how liable we sometimes may be to be deceived by the ambiguity and obscurity of the symptoms which present themselves to us. But it is also very well known that even the whole assemblage of the symptoms as given by nosologists do not always enable the physician to form a clear judgment of the nature of the complaint, because they are often met with as characters or concomitants of other affections—hence the most judicious writers have remarked that the signs which accompany phrenitis are often very ambiguous.*

* This ambiguity most probably arises from a want of a complete and accurate history of this disease; writers who describe it, give only those mo.e

But we have not always the advantage of the whole of these symptoms to direct our judgment, and such as do occur, prevail perhaps, not to such a degree as to lead to a suspicion of the disease. Under such circumstances the diagnosis must be subject to great uncertainty and fallacy.

In the case given almost every characteristic symptom was either absent, or present only in a very moderate degree, and under a most deceptive form. The pain in the head was the only symptom that gave distress, when I saw the patient first; he had little or nothing of fever; no flushing of the face or redness of the eyes, until a very short period before his death; at no time an impatience of light, or sound; no excessive watchfulness, nor that raving delirium which would be expected. Indeed it is a very remarkable circumstance that there was no delirium at all. but instead, a stupor of the mind; an insensibility joined with agitation—such a condition of the mind as happens when the brain labours under a degree of compression. But even this was perceptible only a short time before death; and so late as 3 o'clock, he evidently understood and attended to my inquiries, although his attention was only of momentary duration.*

Under circumstances like these, there can be no wonder that I was deceived, and that the remedies which so formidable a disease demands, should not have been applied in time for any salutary effect. I had reason to suppose from his account, that I saw him towards the paroxysm of an intermittent fever, the retention of his understanding would not admit of my supposing the headache to be any thing more than a very familiar attendant of that disease. Even where his brain appeared to labour under some affection, it was a matter of great doubt whether that affection was not referable to the same disease.

Every practitioner must have observed, that the symptoms which appeared at 3 o'clock, and even those which occurred

prominent symptoms and effects which obviously strike the view; but although they caution us with regard to its uncertainty, they do not teach us the means of obviating it.

* It is to be acknowledged that cases of phrenitis have been observed where delirium existed only in a moderate degree. This has been noticed by Van Swieten, who also quotes Hippocrates and Galen to the same effect. Whether the ancient physicians had a just idea of the true condition of the brain under this disease, may, I think, be questioned: and therefore it may be doubted, whether this remark may not have arisen from a misconception of the disease. The religious prejudices which generally prevailed against the dissection of human subjects; the horror, the odium, and the danger attending a practice so necessary to the investigation of the causes of diseases, render it the less surprising that the true pathology of phrenitis should be mistaken or unknown to them.

near the close of the disease, sometimes attend intermittents. Dr. Cleghorn remarks the same: he tells us that patients labouring under this kind of disease, are sometimes subject to lethargic symptoms, in which case the pulse often varies but little from that of a person in health.* In other cases† "the symptoms," he remarks, "become very formidable, such as severe headache, ungovernable delirium, stupor, *apoplexy*, irregularity of the pulse, subsultus tendinum, &c." The experienced physician Torti, mentions a species of intermittent in which the patient becomes comatose, and this he calls a febris lethargica from this coma which greatly increases the hazard of the disease.‡

I do not remember to have known so rapid a termination of phrenitis, nor is it by any means common. Writers almost uniformly speak of its occupying several days. In the case under review, the progress of the disorder took up a space not exceeding thirty-six hours, dating its commencement from the attack of the ague.

To what course we are to attribute this formidable disease I am far from being certain; whatever influence determines the blood to the vessels of the brain in a greater quantity than they are disposed to admit, will produce either rupture of those vessels, or inflammation, according to their existing conditions.

The disease may be original or secondary, or as our *technical language is*, it may be idiopathic or symptomatic, or it may happen by metastasis or translation—hence it is sometimes the consequence of a retropulsion of cutaneous inflammation. Dr. Cleghorn has observed appearances of the membranes of the brain, which seemed to show that it happens in some cases of pneumonic inflammation.§ It also sometimes happens in small-pox.‖ That such an operation as metastasis does actually take place, is beyond all doubt.¶

* Vide Cleghorn on the disease of Minorca.
† Ibid.
‡ Ibid., note, page 159.
§ Ibid., 249 to 250.
‖ Ibid., 277.
¶ Vide Medical Recorder No. 1, Vol. V. for 1822, Article IV., also the same work, No. 4, Vol. V. 1822, article XVII.

ART. III. *A concise view of the Autumnal Fever of* 1823, *as it occurred in Chester county Pennsylvania.* BY EZRA MICHENER, M. D.

THE insalubrity of the three preceding summers, and especially the last, (1823,) has been so generally and feelingly experienced as not to permit a doubt of the existence of a wide spread, and most destructive epidemic. From every quarter the tale has been told, that the prevailing character of the disease was bilious, either combined with, or possessing a strong disposition to degenerate into typhus.

This opinion of the disease has been so general, that we have frequently been told, and from various and remote places, that physicians were afraid to employ the lancet in the beginning of the fever, for fear of a typhous termination.

Believing that the foregoing opinion is not only erroneous but eminently injurious, inasmuch as it leads to a mode of practice, the characteristic feature of which is, fatality, we are induced to proffer our feeble assistance in correcting false opinions, and establishing correct practices in our profession.

From observations very often repeated, during our connexion with the Philadelphia Dispensary, and from the opinions and practice of physicians whose success had long entitled them to confidence, we began the exercise of our profession, with an entire conviction that secondary or symptomatic typhus depends, not on too much depletion in the commencement of the fever, but on the want of it; that the means so carefully avoided as the dreaded cause of typhus, are in reality, when judiciously employed, the most certain means of averting the dangers of that destructive disease.

This sentiment has been powerfully confirmed by the experience of years;—it has determined our method of treating the prevailing disease; and it enables us to speak with a degree of confidence, which nothing short of the most flattering success, could possibly inspire.

We shall consider the subject under the three general heads of nature, causes, and treatment, only premising that it will be found inexpedient in all cases entirely to separate them from each other. During the summer of 1823 at which time the disease was much more prevalent, than in the preceding seasons, and marked by a corresponding increase of mortality, the fever was generally of the intermittent and remittent, more rarely of the continued type. But such was their ma-

nifest tendency to pass and repass into each other, that it is difficult to separate them in a general description.

In many cases the fever manifested itself slowly by languor, impaired appetite, nausea, headache, erratic pains, slight shiverings succeeded by flashes of heat, diarrhœa or constipation, or an alternation of them, with other signs of slow fever. After some days, perhaps from improper exposure or fatigue, or from excess of some kind, the symptoms become suddenly aggravated, by a severe chill, sometimes without it.

In other cases the accession of fever was marked by a severe chill in the first instance.

Whatever might have been the mode of attack, the accession of the more violent symptoms was generally marked by a severe throbbing pain in the head, particularly in the forehead; often an intolerance to light; sometimes delirium, distressing pains in the lumbar and epigastric, often in the right and sometimes in the left hypochondriac regions; hurried and painful respiration, flushed countenance, extreme heat and dryness of the skin; thirst, muscular pains in the limbs, generally a full and strong, and sometimes a small, corded and frequent pulse; total loss of appetite, nausea, frequent vomiting of bilious matter accompanied with a sense of heat and fulness, often with a degree of tenderness about the epigastrium, tongue covered with a yellowish white fur—bitter taste in the mouth, frequently a yellowness of the eyes and skin; urine scanty and high coloured, constipation of the bowels, or a bilious diarrhœa, in some cases an alternation of them.

When the fever commenced with a chill, and had a tendency to assume the intermitting form, a complete intermission was sometimes observed on the first day, but more frequently not till after the first evacuation. In cases of the remittent, and those verging to the continued form, only slight remissions were to be observed on the first day. The remissions were generally in the morning, sometimes in the evening, and rarely both morning and evening. In other cases no regular remissions were observable until after the employment of remedies.

Patients whose constitutions were previously broken down by disease, intemperance, &c. were often attacked with this form of disease, and when from the latter cause in particular, it sometimes assumed a degree of malignity seldom to be met with in practice. Remittents when mild or arrested by prompt treatment generally passed into the intermitting form on their approach to convalescence.

On the contrary, when violent, or not checked by proper

means they as generally put on the continued form. The character and progress of the fever depends so much on the curative means, that its subsequent history must in a great degree be inferred from the effects of the remedies employed in its cure. We may however notice three states of the disease, namely, the inflammatory, the congestive, and the typhous. That it was inflammatory in the beginning, we infer from the symptoms, all of which are indicative of that state. We infer its character further from the circumstance, that it generally attacked persons of strong, robust constitutions, and those in the vigour of life.

Nor is the circumstance to be overlooked, that spontaneous hemorrhages had a salutary effect, when they occurred in the early stage of the disease; and we trust when we arrive at the treatment, to be able to show that the most successful plan was the one adapted to inflammatory fever generally.

But we have said that it assumed the continued type, and often degenerated into typhus, when not arrested by prompt means. To reconcile the seeming contradiction, we again repeat our conviction, that it often assumed this character, through the want of depletion, but we are also of the opinion, that a local congestion of some important part of the system, was commonly confounded with, and pronounced to be typhus. The two, however, are widely different, or the nature of the latter condition has been most fatally misunderstood by the profession.

This conclusion is fully warranted by the facts, that the persons most subject to the epidemic disease, were those who are most exempted from typhus as a primary disease; that where early and active depletion had been employed, the transition to typhus, very rarely, if ever, took place, that on the contrary, where those means had been delayed till an advanced period of the disease, or were only used in a partial degree, it as uniformly changed its type. The change has further been observed to take place more early, and to assume a degree of malignity, in an inverse ratio to the promptitude and effect of the evacuant remedies. This is what we have called the congestive state of fever, and may occur at any period of the disease, generally between the fifth and tenth days, congestions generally take place either in the brain and spinal marrow, the lungs, or the liver, less frequently the stomach and bowels may be the seat of this affection. In the commencement of fever the viscera were sometimes affected with active inflammation, but this only occurred in the beginning, whereas congestions always were of a later appearance.

This circumstance connected with the symptoms, is sufficient to enable us to distinguish these states. When the balance of excitement is so broken as to occasion an undue determination to the brain it becomes known by a throbbing pain in the head, vertigo, ringing in the ears, redness of the eyes, nasal hemorrhages, delirium, &c.; as the congestion increases the extremities become cold, the breathing hurried, or slow and laborious, stupor passing into coma, muttering delirium, dilatation and insensibility of the pupils, picking at the bedclothes, hickups, involuntary stools, and death. Or the rupture of a blood vessel, effusion in the cranium, &c. may put a more speedy termination to this series of distressing symptoms. When the lungs are the seat of congestion, it is generally known by a dull pain in the breast, short and difficult breathing, great oppression and tightness of the chest, constant and troublesome cough, accompanied with nauseous and bloody expectoration. As the disease advances the oppression increases, until the lungs are no longer able to perform their functions, and death ensues.

Congestions in the abdominal viscera are discovered by dull pain, a sense of heaviness and tenderness in the part, and by all the signs of an interruption of their respective functions. This congestive state of these organs is different from the inflammation of the same parts, as met with in the beginning of the disease, and requires a peculiar mode of treatment. When the brain, in particular, is the seat of this affection, the symptoms so completely simulate those of typhus, that it is often necessary to attend to the previous and accompanying circumstances, in order fully to decide that the disease is a congestive one. The symptoms are not unfrequently relieved by a sudden discharge of blood from the nose, the lungs, the stomach or the bowels, as the case may be. Such discharges particularly from the nose and bowels, were by no means uncommon, and were always attended by a mitigation of symptoms, in proportion to the quantity of blood. The typhous state we have never met with in our own patients, if it be not the one already described, nor are we well acquainted with its peculiar characters. From the foregoing observations it will appear, that our peculiar opinions are, 1st, That the want of depletion is the cause of that state usually considered to be typhus; 2d, That the reputed typhus is commonly a congestive state of some internal viscus; and lastly, that those means which are so generally adopted in the latter state, are by no means adapted to the nature of the disease.

The predominating cause of the late epidemic appears to have been, vegeto-animal effluvia. Heat, moisture, and the

decomposition of organized substances, are the circumstances necessary to the generation of miasma. The question immediately occurs, why marsh effluvia should be more abundant, during the three preceding summers, and found in places where it was before unknown, than what it was prior to that period. Several causes conspire to produce these effects. The summers of 1821-2, were remarkably dry and warm, the waters were consequently low, the ponds and marshy places were drained, and the beds of streams often left dry, so as to expose the animal and vegetable remains which had been accumulating for years to the powerful action of a hot sun. From this view we would naturally infer, what experience had already proved, that the disease would prevail much the most extensively, in and about marshy places, and in the vicinity of water courses. "But during the last summer the circumstances were different. Frequent and copious showers fell during the summer months, so that the marshes were continually inundated, and the streams kept flowing."—By these means the source of disease during the preceding summers was removed, but one of a different, and more extensive character was opened. The frequent showers and consequent luxuriant vegetation furnished an abundant supply of the requisite materials for the production of miasma, in almost every situation, however elevated. From thence we would be led to expect, that the disease would extend its ravages into places where it had formerly been a stranger, and at the same time, be less prevalent in some other situations than what it was the previous summers, and such has been our experience.

Miasma is capable of being transferred to a considerable distance by atmospheric transitions, but it becomes much less injurious by dilution. When concentrated, it is an exciting cause of fever, often producing it in the space of a few hours. In this case, however, it seems to require a co-operating cause, for it seldom produces disease so suddenly, unless the patient has been exposed to the cold, damp air of the night, at the same time. It probably unites with, or accompanies the aqueous vapour in the atmosphere, rises with it during the day, and is again precipitated near the earth's surface during the cool of the night. Hence the greatest caution is necessary to avoid those fogs and chilling damps, which collect upon low grounds, during the night; and in a sickly season, the night air generally. Indeed, it appears to be only during the night that miasma is injurious, so that persons who visit infected places, ought to return while it is yet day. When less concentrated it only predisposes to disease. A morbid

constitution, or adventitious quality of the air, inimical to health, is another cause of the disease. The existence of such causes is sufficiently established by the frequency of epidemic diseases generally, and the late one in particular. They produce morbid predispositions, so as materially to influence the form and character of diseases during their prevalence.—Hence, to use a popular phrase, an epidemic disease, subjects all others to its influence, and compels them "to wear its livery." Whatever may be their nature, the utmost skill of the analyst, has never yet detected the subtle poison, or shown its presence, even where sad experience had demonstrated its existence. And all our suppositions respecting their source, whether we attribute them to a terrestrial origin, volcanoes and earthquakes; whether we derive them from a higher region, planetary influence; or still more remotely from those wandering conjunctions of the universe, comets; they are equally uncertain and unsatisfactory. However, humiliating it may be to the pride of science, we must therefore acknowledge our ignorance of this destroying angel, which so often brandishes the pestilential sword over our devoted heads.

Other causes of a local or individual nature, often contribute, both as predisponents and excitants, to produce the disease, but we shall not notice these more particularly in this place, than simply to enumerate a few of them.

Protracted habits of intemperance in strong drink, existing visceral obstruction, &c., are powerful predisponents, sudden exposure to wet and cold, excessive fatigue, indulgence in excess of any kind, whether eating, drinking, or the sensual passions, in short all those causes which produce sudden local debility by breaking the equilibrium of healthy action, are in their turn, capable of exciting the disease. Having said all that our knowledge and experience, and the practical importance of the foregoing subjects seem to justify; we shall now proceed without further delay to the consideration of the best method of treating the fever we have been endeavouring to describe.

Treatment.—A knowledge of the remedies proper to be employed in the cure of the late epidemic fever, and the principles which ought to determine their application are of too obvious importance to need comment from us. We shall speak of them in the order in which they seem to be required as nearly as the circumstances of disease will permit.

Blood-letting.—In all ages, and in every climate, where medicine had assumed the rank of a science, the bounding pulse, the throbbing head and suffused cheek, the hurried and pain-

ful respiration, the hot and dry skin, must have indicated the propriety, and the necessity, for blood-letting in fevers. But from the history of medicine we learn that many of its brightest ornaments were in the practice of bleeding for ages before the discovery of the immortal Harvey; consequently, before they had any correct notions of the agency of the circulating system, and its contained fluid, in producing the phenomena of disease. We may therefore infer, that Podalirius was first led to employ the lancet, either by accident, or bold experiment; and that the practice was subsequently continued, up to the time of Harvey, entirely on its own intrinsic merits. Since the discovery of the circulation, and the advantages thence derived to physiology and pathology, physicians, led by the clear torch of inductive reasoning, and encouraged by the most manifest advantages, have not only continued, but greatly extended, the practice of blood-letting in fevers. If it is useless or injurious, it will generally be found to depend not on the inapplicability or insufficiency of the means, so much as the injudicious employment of the remedy. To ensure its good effects the lancet must be employed with a particular reference to circumstances, some of the most important of which we shall mention now. 1st. Bleeding should be practised early in the disease; if practicable, during the first paroxysm of fever. 2d. It should be practised while the febrile exacerbation is at its acme. 3d. Blood should be drawn from a large free orifice in a full stream. 4th. The operation should be continued until the symptoms, for which it is employed, are relieved. 5th. It should be repeated as often, and to as great an extent, as the symptoms may require. 6th. Patients who have been bled in the beginning of fever will bear a repetition of the operation, at an advanced period, much better than where the previous evacuation had been omitted. 7th. When practised during a paroxysm, the alleviation of the symptoms is a safe and convenient index, when to stop the operation.—Whereas if it had been done during a remission, we would have had no means of determining how to proceed, and deliquium, with a train of troublesome nervous symptoms might succeed and the patient even be made worse. 8th. If blood be drawn from a small orifice, the dribbling operator may, perhaps in time take enough to check the morbid action, but it will require a much larger quantity to fulfil the indication; consequently relief will be obtained at an unnecessary, and it may be a dangerous expense to the system of the patient. 9th. The cure of disease consists in a removal of its symptoms, to be effectual, a re-

medy must therefore be employed with energy. The pain in the head, difficult respiration &c., must be relieved; the pulses if full and strong, reduced in force and frequency, if frequent and corded, be rendered more slow, soft and full, and the dryness of the skin succeeded by a gentle prespiration.

Employed in this manner, the lancet will in many cases effect a speedy resolution of the paroxysm, and if it does not entirely prevent its recurrence, it will certainly lessen its violence. Keeping the foregoing circumstances in mind, if the paroxysm of fever is attended with severe pain and throbbing in the head, pain in the back and side, difficult breathing, thirst and a hot dry skin, the lancet ought to be immediately employed. And if on the return of the next, or a subsequent paroxysm such symptoms should recur as to indicate it, the lancet ought to be used as promptly as before, and subject to the same rules. It will be observed that we have omitted to mention the pulse as a symptom indicating the use of the lancet, but it should not be neglected. Considered alone, it is sometimes an uncertain and unsafe guide. In general it is either full and strong or frequent, small, and corded, in which cases there can be no doubt. But sometimes it retains a healthy character, at least for a time; in other cases we find it quite feeble, while other symptoms less equivocal, demand the lancet.

This last state of the pulse we have generally found to indicate local congestion. In the employment of the lancet we must not be regulated by the pulse, so much as by more general symptoms, but by attending to these, we can seldom go wrong.

In the congestive state of the system, the lancet sometimes requires a more cautious use. After the inflammatory state of the general system has been reduced by bleeding, local determinations to a dangerous degree, may still exist, and require the use of the lancet. In this case it will be necessary to guard against a collapse, from the sudden loss of blood, by a judicious temporary employment of stimulants. This is a subject requiring a nice discriminating judgment. When topical affections of this kind continue, after the due use of the lancet, *topical blood-letting*, by means of leeches, or cups, may still be employed with manifest advantage, previous to the application of a blister. In all cases where the fever is of an inflammatory type, and the one of which we are treating, was probably so in every instance, the lancet is our sheet anchor in time of danger, and its due employment, our only

haven of safety during the storm. It immediately arrests morbid action in the system, but it does more, it prepares the body and renders it more susceptible of impressions from medicine.

Pediluvium.—If there remains a degree of pain in the head, hurried respiration, and hot skin, after the first use of the lancet, the feet ought to be immediately immersed in warm water.

It produces a revulsion from the head, relieves the oppressed breathing, and promotes perspiration, and it facilitates the operation, and lessens the danger of subsequent vomiting. From its tendency to lessen febrile irritation, and to equalize excitement it should be often repeated during the cure, whenever these symptoms are present. But it is particularly serviceable, and ought always to be employed, in the congestive state of the fever. Immersion in the warm bath would be still more effectual in these latter affections, after the necessary depletion.

Emetics.—Having employed the lancet as directed, and while the feet are still in the bath, an emetic of tartrite of antimony, alone, or combined with ipecacuanha must be given, so as to produce full vomiting, and assisted in its operation by copious draughts of warm water, or weak chamomile tea. It is of particular importance in the administration of this remedy, that it be given immediately after the bleeding, while the system, to use a borrowed simile, is under a kind of panic from the loss of blood, and before the disease has time to reorganize its broken forces. By these means the diseased action may often be completely broken, and an instantaneous cure effected. But if, as more frequently happens, the disease pursues its course, and the next or any succeeding paroxysm is attended by symptoms of irritation and oppression at the stomach, vomiting should be again produced in the same manner, taking care to premise bleeding, and the foot-bath where they are indicated. Or if the fever should prove obstinate, or tedious, it will always be proper to repeat the emetic, and this may be done at any stage of the disease, provided previous means have been used to relieve congestions where they exist, and precautions taken to prevent a collapse, in cases of great debility, by the employment of cordial drinks. In cases where there is already a great degree of gastric irritation and vomiting, instead of giving an emetic, the stomach may be cleansed by copious draughts of warm chamomile tea. If the vomiting is not relieved, the effervescing mixture may be given, a dose of epsom salts,

aided by injections, may also be administered, and if necessary, a sinapism, or blistering plaster, applied to the epigastrium.

Cathartics.—As soon as the stomach will permit, a cathartic of calomel and jalap, or rhubarb, should be given in a full dose, and assisted in its operation with an infusion of senna, or other warm drink. Purging is a remedy of indispensable necessity in the beginning of the disease, when the bowels are generally loaded with large quantities of highly offensive matter; and from the rapid collection of irritating sordes in the intestines, it becomes proper to repeat them frequently in the course of the fever. At first the more drastic purgatives are indicated, but in the advanced stage, medicines of a milder character are often more proper, such, for example, as the sulphate of magnesia, or an infusion of senna. When the stools become of a natural quality and colour, mild laxatives in small doses, will be sufficient to preserve the bowels in a soluble condition.

Cathartics have a powerful effect in relieving the inflammatory and congestive states of the viscera, and in subduing fever generally. Where there is great irritability of the stomach, with vomiting, it may be necessary to lessen them before we can employ the purging medicine with advantage. In case of obstinate constipation, it may often be necessary to assist their operation by injections. These accessary means may also be employed with advantage when medicines are rejected by the stomach; also in the debilitated state of the fever, as a substitute for cathartic medicine, being more managable in their effects, and less debilitating to the patient. Another circumstance which renders their use proper, is, the continuance of a troublesome diarrhœa after the proper evacuations have been employed, here emolient and anodyne injections are highly serviceable. By these primary evacuations, we may frequently disperse the morbid symptoms, and then we have only to support the advantages we have gained by some tonic and cordial means.

Mercurials.—The primary evacuations being finished, and the bleeding repeated, if necessary we are to commence our mercurial course. Calomel, or what we consider to be more effective and less irritating, the black oxyde of mercury, may be given in doses of one grain, two, three or more times a day, according to the urgency of the symptoms, the bilious tendency of the disease and the effects produced by the medicine. Its purgative effects may be restrained if necessary, by combining it with opium or the administration of a few

drops of laudanum. It is seldom necessary, or even proper to carry this plan to the extent of a full salivation; but this may sometimes be done, in violent cases, before we can be certain of having accomplished our purpose.

In extreme cases it may be necessary to use it externally by means of frictions or as a dressing to blistered surfaces. This medicine may very conveniently be combined with the one next on our list.

Antimonials.—On the first remission of fever, after the stomach and bowels have been emptied, we must commence with antimonials. The most common and convenient form, is the antimonial powder composed of eight grains of nitrate of potash and an eighth of a grain of tartrite of antimony. These may be given, during the remissions, every two, three, or four hours, according to circumstances. During an inflammatory state of the system, they should be so managed as to keep up a constant nausea. After the violent symptoms have subsided they may be given more sparingly.

Cold Bath.—The application of cold water to the surface, in fevers, is a remedy at once so grateful to the feelings of the patient, and supported by reasonings so plain and obvious, that our surprise is only equalled by our regret, that it has been, and continues to be, so powerfully opposed by ignorance and prejudice as to prevent its general adoption; it should only be employed when the heat of the skin is above the natural temperature. When the surface is relaxed and cooler than natural, the cold bath is manifestly injurious, and ought never to be employed. It may be applied either by immersion, affusion, or by sponging the body with water. As the two former methods are nearly prohibited by patients and their friends, we must depend upon the latter. Whenever the surface is hot and the skin dry, sponging with a cloth wrung out of cold water, will be productive of the most grateful sensations to the patient, and afford manifest relief to the symptoms. It may be continued or repeated, so long as this continues to be the case, but ought never to be used where it produces a disagreeable sense of cold.

Sinapisms.—These are convenient applications, prompt in their operation, and well adapted to relieve sudden determinations, on the principles of counter irritation and revulsion. When applied to the extremities during a febrile paroxysm, they tend to mitigate its violence, and shorten its duration. In cases of much gastric irritation, they are highly useful applied either on the stomach or on the extremities; but it is in the congestive and typhous states that they

are particularly serviceable, by determining to the parts where they are applied, and increasing the excitement of the nervous system.

Blisters.—Blistering is a remedy which admits of a two-fold application—generally, for the relief of febrile symptoms—particularly, to relieve topical affections. In all cases they should follow the primary evacuations, except when used to check vomiting, and even then the lancet ought generally to precede them. As a general remedy for fever, they should be applied to the extremities, and along the track of the spine. The latter situation is particularly proper in all cases approaching to typhus. When employed for the relief of the local affections, they may generally be laid upon the seat of pain. In determinations to the head it is, however, better to apply them to the ankles and back of the neck, and have their action supported by cloths wrung out of cold water and laid on the head.

Stimulants.—These are rarely admissible in the treatment of the disease. But under certain restrictions, and in particular cases, they are important remedies. In the congestive state of the disease they are sometimes of service. It sometimes becomes necessary to give an emetic in the latter period of the disease. In this case, as well as when the stomach has been greatly debilitated by long continued vomiting, it is often necessary to support the tone of that organ by means of some cordial drink, such as diluted wine, or wine whey. Congestions sometimes remain, after the inflammatory stage of the fever has passed by, and may be speedily relieved by taking away some blood; but it requires great care that the system does not suddenly sink under the operation; an event which must be timely guarded against, by the judicious use of stimuli, such as camphor, ammonia, or even wine. The typhous state seems particularly to require this class of remedies; but as we have never seen it, and believe, by attention to the means we are detailing, that it is not likely to occur, we shall refrain from going further into the inquiry. In the congestive state, which nearly resembles typhus, and has, we believe, very generally been mistaken for it, stimulants have almost uniformly been used, and with what degree of success, the records of mortality too plainly show. When given in this state with a liberal hand, if the organ suffering congestion can resist the increased determination occasioned by the medicine, until a high degree of excitement is produced in other parts, revulsion from that organ may be the consequence in time for it to renew its functions. But the

probability is much greater, that the parts, already in a suffering condition from the determination to them, will suffer still more from its increase, until completely overwhelmed by the purple torrent; and this is our mournful experience.

Tonics.—As soon as we have succeeded in subduing the inflammatory state of the disease by the above means, and brought the fever to a decided remission, or a more complete intermission, we may commence with tonics. Early in the case, and when there is only a slight remission, infusions of eupatorium perfoliatum, prunus virginiana, or of the serpentaria, may be given, acidulated with the sulphuric acid. As it approaches the complete intermission, the columbo, in infusion or substance, may be ordered, and finally, the cinchona in substance. If the intermissions are complete, and of considerable duration, wine may be allowed with the barks; but in general it ought to be withheld till convalescence is fairly established. In cases which manifest a tendency to the continued type, accompanied with typhoid symptoms, the arsenical solution is an excellent remedy. As the remissions grow more perfect, we may give the compound tincture of barks with the elixir of vitriol, until the columbo or cinchona can be borne in substance. The mineral solution is well adapted to cases of children, who are generally averse to taking the barks. A course of tonics ought to be continued for some time after the restoration of health.

Pure Air.—The free admission of pure, cool air, into the apartments of the sick, is so conducive to their present comfort and speedy recovery, that nothing should be suffered to prevent it.

Drinks.—The most natural, the most agreeable, and the most effectual drink in fever, is cold water. Indeed it is the greatest luxury a patient can have, and is often the only object of his anxious cravings. Though prejudice may oppose, and ignorance reject it as injurious in fever, yet experience has established its superior claims to our confidence. When there is a hot skin, with extreme thirst, a copious draught of cold water will always relieve the violence of the symptoms, and frequently effect an entire solution of the paroxysm, by producing a free and general perspiration. Its effects, indeed, are very analogous to those of the cold bath, differing only in degree, and may often serve as a substitute. Cold drinks are proper in every stage of the fever, when the skin is hot and dry, with thirst. They are improper during the operation of emetics, and sometimes of cathartics, and in all

cases where the skin is cold and relaxed, or where they occasion a sense of chilness.

It is a cause of surprise and regret, that physicians not only deprive their patients of this agreeable and useful beverage, but too often avail themselves of the popular prejudice against it, to shield themselves from deserving censure, and thereby increasing the difficulties which others have to encounter in employing it.

Diet.—On this subject we have little that is new to offer. During the continuance of fever, a spare, cool, vegetable diet, must be strictly adhered to. When convalescence is established, more nourishing articles, such as weak broth, animal jellies, &c., and finally the lighter meats may be allowed. But in certain cases the stomach is left in so debilitated a state as to reject such articles as we have named. In these cases broiled beef, either fresh or salted, was given with the happiest effect.

Art. IV. TRANSACTIONS OF THE MEDICAL SOCIETY OF VIRGINIA.

Continued from page 99.

No. 11. *Case of Tetanus.* By Wm. Tazewell, M. D., read October 15, 1825.

On the morning of the 31st May, 1825, I was sent for to a female child, aged three years, at captain Ambler's, about six miles from Richmond. Not being at home when the message was received, I did not see the patient till about noon.

On my arrival at captain Ambler's, I found that I had been anticipated in my visit by a gentleman of the faculty, of high respectability, who had already directed a purgative of magnesia, under the impression, as I was informed, that the child's complaint proceeded from her having eaten improperly. I then saw no symptom whatever, to induce me to think that such might not have been the case.

The purgative, in the course of an hour after my arrival, produced several evacuations, in appearance, quantity, and smell perfectly healthful. The pulse was regular, the tongue clean, appetite but little impaired, skin soft, and inclined to moisture, heat and thirst natural.

Seeing nothing in the child's situation calculated to alarm,

even the most timid, I was about to return to the city, but was diverted therefrom by the solicitations of anxious parents, to wait and see the result of the operation of the purgative.

The medicine continued to operate during the afternoon, but by no means to a degree calculated to produce the symptoms that supervened. At about 5 P. M., however, the patient discovered great prostration of strength, attended with threatening syncope, a weak irregular pulse, and extremities cooler and more moist than natural.

Unable, from the circumstances of the case, to communicate with the physician who had first seen the patient, and regarding the symptoms as urgent, I directed mint julap to be given frequently, and in such quantities as the stomach would conveniently bear. This remedy produced no relief of symptoms whatsoever; and about 6 P. M. the child experienced an attack of spasm of the opisthotonos species so slight at first, that it was only observed by myself; in the sequel however, at intervals of about two hours, it became more severe and in all respects alarming.

Early in the night having observed, during the intervals of the paroxysms, some contortions of the face and writhing of the body, indicative, as I supposed, of pain in the abdomen or thorax, I applied a large blister, extending from above the scrobiculus cordis, below the umbilicus, which remained on all night, and drew well; but the symptoms of general debility and spasms continued nearly in the same degree, and with but little variation of interval.

On the following morning, apprehending that the disease might probably be occasioned by some offensive matter adhering to the inner coat of the stomach, as the fœcal discharge had exhibited nothing to induce the belief that the lower portion of the intestinal canal was in fault, I administered an emetic* which operated well, effecting the discharge of an unusual quantity of viscid phlegm every evacuation of which was accompanied with apparently great relief of all the urgent symptoms, but especially the spasms, which did not recur till the afternoon, preceded by the same languor, cold extremities, and threatening syncope, which had accompanied their attack on the previous day. I then resumed the use of the julap combined with laudanum, which produced sleep dur-

* R. P. Ipecac. gr. vj.
Tart. Antimon. gr. quart part.
M. pro dosin.

ing the intervals of paroxysm, but no permanent removal of the spasms, which continued, but accompanied by no symptom of disease whatsoever except those already described.

It now occurred to me, (rarely as it happens with children of her age and healthy temperament) that the disease might be purely nervous, and under this impression I determined to rely on antispasmodics alone. Of these I gave preference to a combination of asafœtida and opium.* The first dose of this medicine, notwithstanding that it produced a considerable degree of nausea, was followed by a most remarkably exhilerating effect, in so much as to attract the attention of all who saw her; the patient from being dull and heavy, having become lively and playful.

No spasm having recurred for four hours, during which three full doses of the mixture had been exhibited, I thought proper to increase the interval of exhibition, and diminish the dose, more especially of opium. Its use was continued for twenty-four hours, during which there occurred not the slightest symptom of spasm, and the general strength of the system had increased to such a degree, that the child could walk several steps without falling.

I left her on the day following convalescent; and presume, having heard nothing to the contrary, that she continued so, until restored to health.

I am well aware that the case of which I have furnished, the history and treatment presents a wide field for speculation to the medical theorist; but until we are better informed in relation to the mode in which the functions of the nervous system are performed, whether through the medium of vibration, an aura, galvanism, or a fluid sui-generis, and invisible I think it more philosophical to be satisfied with what we can see and feel, however inexplicable, than to launch into speculations furnishing an ignis fatuus to the inexperienced, but no true light, calculated to promote the objects of rational medicine.

* R. Tr. Asafœtid. ℥ss.
Opii gtt xxx.
Aq. Fortan. ℥iv.
℥At.
Sumat. semi unc. 2da quag. hora.

No. 12. *Copy of an Essay read before the Medical Society of Virginia, at their Anniversary Meeting, January* 1, 1823. By JAMES HENDERSON, M.D.

GENTLEMEN.—In attempting to perform the duty assigned me by the resolution of this Society, I propose offering a few remarks on the progress of medicine, from its earliest establishment as a distinct science, or professional art, down to the revival of learning in modern Europe.

Many distinguished cultivators of medicine have evinced a wonderful degree of solicitude in tracing back the origin of their science to very remote periods of antiquity.

The writings of Homer have been particularly referred to, as furnishing unquestionable evidence of the high improvement attained in the knowledge of anatomy and surgery, even as early as the wars between Greece and Troy; wherein Podalirius and Machaon, the reputed sons of Esculapius, are represented as not less renowned for their knowledge of surgery, than their valour and conduct in the field of Mars.

According to Homer, Podalirius and Machaon were sovereign princes of Greece, and vested with high military command; while, by their companions in arms, they were frequently eulogised as divine professors of the healing arts.

Nevertheless, in glancing over the Iliad, I do not find a single instance wherein Podalirius was consulted, and only one in which Machaon was called upon to officiate in a medical capacity. Menelaus being wounded by an arrow, yet not so deeply as to cover the barb, Agamemnon in great fear for his brother's safety, pressed Machaon to his relief. Machaon found the Spartan king standing firm within a circle of his anxious friends. Without removing any part of the clothing, he immediately attempted to withdraw the arrow, but the shaft only gave way, leaving the head behind. The part being then uncovered, Machaon proceeded to suck the wound, and apply a sovereign balsam, leaving the arrow head to be thrown off by the subsequent operations of nature. Whether such a course indicated even a very inferior degree of surgical skill, no one within my hearing can feel any difficulty in determining. On another occasion Machaon himself was severely wounded in the shoulder with a dart; but we are not informed what mode of treatment was adopted in this really important case.

When Diomed received a wound from an arrow, he retired behind his chariot, and requested the aid of Sthenalus, who

leaping suddenly from his car, tugged the weapon from the gushing wound.

Under similar circumstances, the heroic and stern Ulysses determined to relieve himself, and raging under the torture of a severe wound, he writhed his body and extracted the dart.

Lastly, Patrocles advancing to battle, was met by Eurypylus badly wounded, with a dart still remaining unextracted. At the earnest request of the bleeding hero, Patrocles enlarged the wound by incision, and extracted the dart; then washing it with warm water, poured into it a styptic vegetable juice, which he had previously prepared, and whereby the hemorrhage immediately ceased, and the smarting very soon subsided.

Thus, if we are to judge from their practice, Patroclus, though of no other profession than that of arms, may well be considered the most accomplished surgeon in the Grecian camp, and that too without exciting the envy of practitioners of modern days. The principal passage in the Iliad, whence these enthusiasts for ancient improvement have inferred a critical acquaintance with anatomy at this early age, is that wherein we are informed of a formidable wound inflicted by Diomed on Eneas, by the throwing of a huge rugged stone:

> Where to the hip the inserted thigh unites,
> Full on the bone the pointed marble lights;
> Through both the tendons broke the rugged stone,
> And stripp'd the skin, and crack'd the solid bone.

Of such flimsy arguments, let the zealous advocates of early medical improvement make the most; you do not expect, gentlemen, that we should waste time in refuting them.

But, moreover, the embalming of bodies, the preparation of slaughtered animals for sacrifice, and the consultations of the Haruspices, have a thousand times been resorted to, as sources whence anatomical knowledge must have been abundantly derived in very distant ages.

Surely, gentlemen, we might, with equal reason, look for valuable information from the cooks and butchers of modern days. In the art of embalming, no further anatomical knowledge was required, than for the removal of the viscera, in a way least apt to produce corporeal deformity. In performing sacrifices, it was only necessary to know and to select the best parts for those who conducted them, and the annunciations of the Haruspices were no doubt prepared suitably to the occasions they were intended to meet, without regard to

appearances in the animals subjected to dissection. The whole being a trick of the priests, or subservient to the views of state intriguers, required no anatomical information, nor was it calculated to impart any.

Leaving these fabulous and visionary speculations to the enjoyment of men who delight more in the wild wanderings of a luxuriant fancy, than in the sober suggestions of a well regulated judgment, we come down to that period, when the study and practice of medicine had assumed a regular and well defined form.

The first medical author, of whose life and writings history has furnished us with any authentic record, was Hippocrates, a native of Cos, one of the most inconsiderable of the Grecian islands. He was born in the fourth year of the seventy-ninth Olympiad, or 460 years anterior to the Christian era.

He practised in Thessaly, with great reputation, and at a very advanced age died at Larissa, between which and Gyetana he was buried, and where a handsome monument was erected to his memory by his grateful countrymen. We are informed by Soranus, that this monument still remained, and was shown to him with marks of particular veneration, several centuries after the death of Hippocrates. His writings were arranged and published by Polybus, his son-in-law, to whom, as well as his sons Thessalus and Draco, all eminent physicians, many parts of what are commonly known as the works of Hippocrates, have frequently been ascribed by modern writers. Whether this may have been the case or otherwise, these writings must be equally indicative of the state of medical science, at the remote period to which our attention is now directed.

Those who are fond of attaching pre-eminent excellence to antiquity, have often contended that the cultivation of medicine in the family of Hippocrates, during a descent of nine hundred years from Esculapius, afforded conclusive evidence that Hippocrates himself must have been a profound anatomist. But with how little reason, will appear from examining the works of that distinguished author. The writings of Hippocrates related principally to the practice of medicine, with a few chapters on surgery; and where the subjects of inquiry have been most favourable to the introduction of anatomy, his acquaintance with that science appears to have been extremely circumscribed. Nor will this appear strange, when it is considered that popular prejudice was, even at the age in which he lived, so decidedly adverse to the dissection

of human bodies, that they had never been examined with a view to the advancement of science.

He seems to have entertained no distinct idea of the fasciculated structure or motive powers of muscles.

He considered the arteries as receiving blood and spirit from the heart, the veins as receiving blood from the liver, and both as performing a flux and reflux in the same vessels; but had no idea of circulation. In short, the only valuable anatomical information which he seems to have possessed, was some general acquaintance with the external structure and connexions of the bones.

The surgical writings of Hippocrates are principally confined to fractures and dislocations, on which he gives much useful instruction, with regard to bandages, posture, and external medicaments; and the machines which he invented for the reduction of long continued luxations of the humerus, have occasionally been used in hospitals within the view of some who are now present. His treatment of wounds of the head, ulcers and fistulas, was extremely imperfect.

He makes no mention of amputation, and his pupils were enjoined, in their inaugural oath, never to perform the operation of lithotomy. Hence it has been inferred that he considered surgery as requiring a degree of dexterity, only to be attained by an exclusive devotion to that branch of practice.

In midwifery, Hippocrates was acquainted with the natural presentation of the fœtus, and in all preternatural cases, he endeavoured, by pushing back the child, to restore the true position.

Difficult labours seem to have been ascribed by him to rigidity of the parts, without adverting to the frequent occurrence of deformity. Hence, his practice was to use fomentations and other relaxing remedies, frequently a considerable time previous to expected parturition; and when these proved insufficient, he diminished the bulk of the child, thus establishing a correct practice on a mistaken theory.

He was, however, entirely unacquainted with what was afterwards known by the Cesarian operation.

Hippocrates considered all the actions of animal life, as under the attention and superintendence of an intuitive or intelligent principle, which he called nature; which, if we advert to its faculties and effects, has, through succeeding ages, been recognized under the names of archeus, vital principle, anima, spirit of animation, and vis medicatrix naturæ. The brain, which in modern times has been looked on as the common sensorium, he viewed as a mere glandular

body, and condenser of vapid fluids, to be discharged in catarrhs and defluxions, or for the preparation of the seminal fluid, while in the left ventricle of the heart he assigned a residence to the intelligent faculty.

The animal fluids he divided into blood, phlegm, yellow and black bile, to which he attached the qualities of hot, cold, dry, and moist, in the due balance whereof he considered health to prevail, and that disease grew out of an excess, deficiency, or depravation of any or all of these fluids and qualities.

He also supposed a certain relation to subsist between these humours and the four seasons of the year, or the four grand stages of human life. According to this theory, phlegm, a cold humour, was most prevalent in winter and old age, in spring and in youth blood is redundant, while in summer and autumn, as well as in mature and vigorous manhood, bilious affections have their seasons of prevalence. And all these states may be considered as analogous to the predispositions of modern days, while air, exercise, rest, sleep and watching, externally, with food, drink, secretions, retentions, and passions of the mind, comprehended the internal exciting causes of disease.

Disordered respiration he considered as one of the most frequent sources of morbid affections.

He viewed digestion as a function of the very first importance; and supposed that it was performed by the agency of heat.

Hippocrates divided diseases into epidemic, endemic, and sporadic, in the same sense in which these terms are now recognized, and again into acute and chronic, limiting acute diseases to fourteen days.

To the duration or progress of acute disease, he also assigned four distinct stages; the beginning, the increase, the height or acme, and the decline. The great work of concoction he expected to be accomplished during the third stage, and that between this and the commencement of the fourth stage, some spontaneous indication of an outlet of morbific matter should appear, a process he considered to be critical, and was careful not to interrupt. Moreover, from observation as well as from preconceived hypothesis, he was led to look for these critical evacuations of morbific matter on certain days of the disease, and according to the state of the symptoms on these days in fever, he generally prognosticated the final issue.

The doctrine of critical days has given rise to much diver-

sity of opinion, from the days of Hippocrates to modern times, as well respecting the order in which they are said to occur, as on the question whether they have any foundation in fact. In the fevers of temperate and cold climates, the prevailing opinion seems to be, that critical days are scarcely observable, while in the ardent and rapid moving fevers of warm countries, (such as those in which Hippocrates practised) they are distinctly marked.

The great excellence of Hippocrates consisted in his faithful descriptions of such diseases as came under his observation, and in a sedulous attention to a multitude of minute circumstances, particularly in the secretions and excretions, whereby he was enabled to fortell their ultimate issue. Among the grounds of prognoses, it is, however, surprising, that he should have paid little or no attention to the pulse. Contagion is no where mentioned in his writings. Indeed, as small pox, measles, and syphilis were then unknown, its sphere of operation must have been extremely limited.

In the practice delivered by Hippocrates, he warmly inculcates a reliance on the powers of nature, having great confidence in her curative tendencies; and declines a recourse to medical aid, till there appears a backwardness to spontaneous cure, or where the disease presents danger from the commencement.

His general principles of curative indication are given in the following propositions, "that contraries are cured by contraries, so that cold is the remedy for heat, and heat for cold; evacuation will cure repletion, and repletion will repair the loss sustained by evacuation; that the art of medicine consists in supplying deficiencies, and retrenching superfluities, in treating relaxation and contraction by their opposites, and in bringing back to their proper channels, fluids that are moving in improper courses."

The great reliance of Hippocrates on the curative powers of nature, induced him, in most cases, to commence the treatment of diseases by a mere regulation of diet, and often to depend on this course altogether. In cases attended with very high excitement, it was usual with him to interdict the use of food entirely for three or four days, and to allow even a sparing use of the mildest drinks. With a view of allaying the intense dryness of the mouth and fauces, without suffering large draughts to be taken into the stomach, the drink was often applied upon a sponge.

This withholding of external agents, was intended to leave nature entirely unfettered, whereby she might be the more at

liberty to perform the concocting and evacuating processes necessary for the removal of disease. But if nature seemed defective in her operations, or much debility prevailed, then Hippocrates proceeded to allow a free use of water with a little honey and vinegar, and sometimes added subacid fruits, cooling herbs, barley water, or small portions of weak wine. And this abstemious plan, whether accompanied with medicines or not, was generally kept up for fourteen days, when a more generous diet was allowed, and mild emetics and laxatives were conjoined. The emetics generally consisted of a decoction of hyssop, with salt and vinegar; the laxatives of the expressed juice of cabbage or the herb mercury, or of whey with the addition of common salt. Glysters were also in frequent use.

When purgatives of great energy were required, he had recourse to some of the most drastic of the vegetable products, as hellebore, scammony, colocynth, and elaterium; for he was unacquainted with the numerous mild cathartics of which modern practitioners enjoy an ample choice. But these drastic purgatives were not given to old persons, to children, nor to pregnant women.

As a sudorific Hippocrates used external heat, as well by augmenting the temperature of the sick room, covering the patient up, and affusing hot water, as by a free employment of warm drinks, and sometimes of pure wine. As diuretics, he gave garlic, cucumbers, and melons, celery and other aromatic vegetables. He also employed blood-letting freely, both in a topical and general way, sometimes carrying the latter even to deliquium animi.

In his Aphorisms he laid down a principle, that diseases incurable by medicine, may be removed by the knife, and that if incurable by the knife, they may yield to fire; but that such as will not give way to fire, are to be considered incurable: a maxim not more inconsistent with the generally inert character of his practice, than at variance with truth itself. Yet, conformably to this maxim, he made a free use of local bleeding and the actual cautery in obstinate chronic cases, even to the extent of burning the bones, which he also sawed and perforated without hesitation. Even the trepan he frequently applied for inveterate headaches, although he was ignorant of its use against injuries from external violence.

Chemistry, as a science or as subordinate to the purposes of medicine, had no existence in the days of Hippocrates. It extended no farther than to the separation of a small number of metals from their ores, with a few processes of very limited

application to such of the useful arts as were then dawning upon mankind.

The materia medica of this celebrated physician, formed a voluminous catalogue, derived almost entirely from the vegetable kingdom, generally of a very inert character, and many of them that in the present age would be considered more appropriate to culinary than medical purposes.

The juice of the poppy was not yet extracted for the formation of opium, but a watery infusion of the heads of the plant was employed whenever a narcotic was deemed advisable.

Of the few substances selected from the animal department of nature, cantharides was almost the only active ingredient. And it is remarkable, that with a practice generally so feeble as that pursued by Hippocrates, he should have made a free use of this medicine internally, while he was altogether unacquainted with its operation as a vesicatory.

The other animal products admitted into the materia medica of Hippocrates, were fats, excrements and bile. With solemn discrimination he prescribed the fat of the goose, the sheep, and several other animals, in cases wherein a modern practitioner would recognize no other quality than that of a mild animal oil; and the excrements of sheep, goats, mules, and other beasts, calculated in our days only to excite insuperable disgust.

The preparing and administering of vegetable substances, which chiefly constituted the materia medica of Hippocrates, was extremely simple. The only menstrua known in his time being water and the feeble wines of the Levant, and the use of wine being limited to chronic cases of long standing, or those of urgent debility, his prescriptions were generally directed either to vegetables in their crude state, or subjected to aqueous infusion. Upon the whole, then, it may fairly be inferred that the prescriptions of Hippocrates were feeble, bulky, disgusting, and altogether the reverse of the elegant and energetic practice of modern times.

With respect to the Botany of Hippocrates, it may be observed, that his materia medica embraced nearly the whole of it that was then known. At that remote age botanical knowledge extended no farther than to the formation of catalogues of very limited extent; and the classical distinction of plants, as well as a knowledge of the laws of vegetable life, were reserved for a period many centuries nearer our own times.

Nearly two hundred years passed away from the death of

Hippocrates, before medical science was aided by any public institution, where lectures or demonstrations were given.

The first important anatomical information seems to have been derived from the medical school of Alexandria, where after a considerable lapse of time, the successors of Alexander, its celebrated founder, encouraged the dissection of human bodies. Erasistratus and Herophilus taught as professors of this institution, about two centuries anterior to the Christian era; and were the first regular teachers of human anatomy. But unfortunately none of their writings have come down to us. Galen from whom we have principally become acquainted with their works, speaks of them as accomplished anatomists, an encomium to which they were probably well entitled in the age in which they lived. And the then sovereigns of Egypt, anxious for the improvement of medical science, are said to have ordered that the bodies of all criminals should be delivered to these much favoured professors, by whom they were sometimes dissected while yet alive.

Erasistratus and Herophilus were certainly the earliest writers who gave a minute description of the brain, which they viewed in conjunction with the nerves, as a common sensorium. They were also acquainted with the larger blood vessels, and the valvular structure of the heart, the distribution of the porta for the secretion of bile, and the secretion of urine by the kidneys. They called the pulmonary artery, "Arterial Vein," and the pulmonary vein, "Venous Artery;" they denominated the fourth sinus of the brain, "Torcular Herophile," gave to the retina and choroid coats of the eye the names by which they are still known, and to the soul they assigned a habitation in the ventriculi cerebri.

According to Erasistratus, respiration served no other purpose than to fill the bronchial ramifications with air, which thence passing into the extremities of the pulmonary artery, was conveyed to the heart, and so entered the aorta, to be distributed throughout the body. Indeed, at this time, the anatomists of the Alexandrian school, generally finding the arteries empty, maintained that in health they received no blood, but were filled with air.

He attributed digestion to mechanical attrition; but by what mode effected we are not informed.

The great source of febrile disease, according to this writer, was in the arteries and veins, which he considered as uniting their ultimate ramifications, yet without any communication of their cavities. But when from a superabundance of blood, or any other cause of violence, the junctions of

the veins to the arteries were forced open, blood passed into the arteries and resisted the enclosed air. If this opposition arose near a vital part, or if the air did not overcome the blood, and press it back into the veins, fever was the consequence, but otherwise only a local inflammation.

The practice of Erasistratus was extremely inert. Although he attributed diseases generally to plethora, yet disapproving of venesection and cathartics, he endeavoured to combat them by abstinence, or such diet as contained a scanty share of nutriment. He was an avowed enemy to all compound medicines, particularly such as were taken from different departments of nature, or contained ingredients of an active character.

Herophilus greatly enlarged the sphere of observation of the pulse, marking its relative fulness, frequency, strength, regularity, and some other modifications. In practice he was less fastidious than Erasistratus, employing medicines in many diseases, which, anterior to his time, had been combated by diet and regimen only.

Though Erasistratus and Herophilus were but feeble practitioners, yet in their speculations much boldness and independence were manifested. Notwithstanding the profound veneration with which the views of Hippocrates were every where received, they questioned his opinions with great freedom, and took great pains in detecting and exposing the numerous errors into which they considered the great father of medicine to have evidently fallen.

The most distinguished medical writer from the age of Hippocrates was Celsus, who was born late in the reign of Augustus Cesar, and was living at Rome in the time of Caligula. He was highly accomplished in every branch of learning, which was fashionable in the Augustan age.

Celsus published a work "De Re Medica," which in a remarkably condensed form, not only contains whatever was really valuable in the writings of Hippocrates, but much excellent practice, that may fairly be claimed as his own.

He wrote nothing professedly on anatomy, if we except a few pages containing a very imperfect description of the eye, the viscera, and the bones, nor are we authorized to infer from any part of his writings, that the knowledge of animal structure had to his time, gained much advancement from the day of Erasistratus and Herophilus.

But in surgery he excelled all who had gone before him, and in many important operations, left but little of improvement to be added by practitioners of modern times.

In the treatment of wounds his first care was to stop the effusion of blood. This he endeavoured to effect by the application of dry lint, over which was placed sponge from whence cold water had been squeezed, and the whole subjected to compression. When these measures did not prevail, he removed the dressings, and applied pledgets moistened with vinegar. If still disappointed he endeavoured to secure the bleeding vessel by two ligatures, and then dividing the vessel between them, as was not many years ago practised in operating for aneurism; and where this was impractible, his ultimate reliance was on the actual cautery. After restraining the hemorrhage, he approximated the wounded parts by suture or adhesive plaister, and in the subsequent treatment, pursued measures bearing a strong analogy to those now in use.

Against the bite of a mad dog, he advised immediate cupping, with a view of extracting the virus, and then the actual cautery; after which he directed the patient to use the warm bath and to continue sweating therein so long as his strength would permit, and on leaving it to drink freely of wine. By continuing these measures for three days, he considered the patient to be secure from danger. But without their vigilant application, it was usual for the hydrophobia to succeed; which he describes in these emphatic words, "miserrimum genus morbi; in quo simul æger et siti et aquæ metu cruciatur." In this deplorable situation he directed the patient to be suddenly thrown into a pond of water, and forcibly detained and made to drink of it, then transferred to a bath of warm oil.

In the treatment of the bites of venomous serpents, he directs a ligature to be applied above the wounded part, then scarifying and cupping; or sucking, which he avers may be practised with perfect safety; "nam venenum serpentis, non gustu sed in vulnere nocet. Ideoque colubra ipsa tuto astur, ictus ejus occidit." In the same passage we recognize the popular remedy of our own country, a living foul, a kid or a lamb, ript open, and applied yet warm and bleeding to the wounded part.

In the operations of trepanning, couching, castrating, tapping for ascites, extracting missile weapons, and in the management of fistulous ulcers, particularly fistula in ano, he proceeded with very little deviation from the most approved methods of the present day.

In the management of fractures, he used all possible expedition in reducing them before inflammation arose. The

position of the reduced bones he endeavoured to secure by the application of bandages, never, however, drawn so tight as to add to the distress of the patient. But the application of splints he always delayed till the subsiding of inflammation, and frequently for short periods loosened the bandages during the progress of the cure. When shortening or deformity occurred from an incorrect position of the bones, he advised them to be again fractured at the point of union, and then treated as in the first instance. In other respects his management of fractures was mild and judicious.

Cancers he treated principally by external applications, among which were quicklime and orpiment. He often had recourse to extirpation followed by the actual cautery; but frequently observed the disease to return, yet seemed to have no idea of its dependence on a morbid state of the general system.

Catheters were in familiar use with Celsus. They were made of copper, and armed with a wire as now constructed.

Lithotomy was in the days of this distinguished surgeon, a rude and dangerous operation. The only instruments employed in performing it were a scalpel and iron hook, the calculus being previously pressed towards the neck of the bladder, by two fingers introduced into the anus. In cases of varicose veins, fistula lachrymalis, and cancerous penis, he cut away the diseased parts, and with a view of restraining hemorrhage, and preventing a return of these diseases, he applied the searing iron.

But the most imperfectly performed of all the operations of Celsus was amputation, which is the more surprising, as it was the only remedy on which he placed any reliance in gangrene. He performed it by a single incision down to the bone, then drawing back the flesh dissected it all round from the bone, which he sawed off as high up as possible, and then brought the soft parts over the sawed surface. The subsequent treatment was the same as that pursued in simple wounds; hence the only method then known for stopping the further effusion of blood, was the cruel expedient of applying the actual cautery. Indeed he takes no notice of any method of restraining the hemorrage while operating, whence the operation itself frequently proved fatal before the patient was removed from the table.

In the age of which we speak, the obstetric branch of surgery had received some considerable improvements. When one foot presented, it was the practice of Celsus to bring down the other, and deliver by the feet. If an arm pro-

truded he endeavoured to return it, and to bring down the head in a natural position; and sometimes in such cases he turned and delivered by the feet.

Where he apprehended the fœtus to be dead, he aided the natural efforts by a slender hook, or crotchet. Plunging this instrument into the eye, ear or mouth, and sometimes into the forehead; he endeavoured to bring away the infant. He was however, extremely cautious and slow in giving this assistance, that he might avoid the disengagement of the hook, and consequent wounding of the parts, which he considered a source of much danger. With the same view, while he slowly pulled with one hand, he used the other as a guide and safeguard to the crotchet. When the fœtus lay in a transverse position with the head folded back, he detached it by cutting through the neck, and then drew forth the head before extracting the body.

Immediately after delivering the fœtus he endeavoured to bring away the placenta, by cautiously pulling the umbilical cord, but if a gentle force proved insufficient, he then introduced his hand, carefully detached the secundines from the uterus, and brought them away together with any coagula found collected there.

During the puerperal state the patient was kept quiet, and strictly enjoined to an antiphlogistic course of treatment.

In the writings of this excellent author, we find hardly any thing of what may strictly be considered, the theory of medicine. He was indeed a nice and accurate observer of numberless circumstances in corporeal form and constitutional bias, whereby individuals are distinguished; of their habits of life and prevailing propensities, and how far these are connected with certain modifications of health or disease. He also noted the influence of the stages of life, seasons of the year, varieties of climate, and locality of habitation. But he affected no acquaintance with the occult processes whereby the phenomena of life are generated and sustained, nor why they assume a boundless diversity of form, according to the peculiarities with which individuals are constituted, or the variety of circumstances to whose influence they are subjected in their progress through life.

In his first book Celsus has delivered numerous instructions for the preservation of health, among which are contained copious directions for regulating diet and other branches of regimen, with the same view he was a warm advocate for a free and frequent use of frictions with oil, baths of varied temperature, and the wearing of flannel. His general views

in prophylactics pointed to the reduction of actions tending to excess, and aiding such as were defective, and he was a friend to temperance in every form.

In his histories of diseases he united a clearness of description, with a force and condensity of expression, which has never been surpassed by any writer of ancient or modern times.

But while he paid great attention to the condition of the stomach, the lungs and brain, perspiration, heat and other phenomena of disease, the state of the pulse seems but seldom to have attracted his notice; nor does he designate the varieties of its character with that precision which is generally conspicuous in his writings; nevertheless on some occasions he has considered it worthy of critical observation, and remarks that before examining it in fevers, an intelligent physician will endeavour to compose his patient's feelings, by passing some time in cheerful intercourse with the attendants in the sick chamber.

From an historical veiw of symptoms, Celsus proceeded straitway to the application of remedies, without interposing any theory of disease, or general indications of cure; and his practice was greatly governed by a view to the leading symptoms of each case, and by a diligent observation, and practical application of the juvantia and ledentia.

His practice was infinitely more energetic than that of the Greek physicians, nor did he, like Hippocrates and his followers, lose time in merely marking the tendencies of nature in acute diseases; but boldly assailed them during their early stages, by a free yet well directed application of the most active remedies then in use, among which venesection, cathartics and sudorifics stood pre-eminent.

Celsus has, more successfully than any of his predecessors, proceeded in furnishing a classification of remedies, founded, not on gratuitous hypothesis, but on a careful observation of their effects on living bodies. And his general doctrine of Therapeia is contained in the following short and beautiful passage, "Omne vero auxilium corporis, aut demit aliquam materiem, aut adjicit, aut evocat, aut reprimit, aut refrigerat calefacit, simulque aut durat, aut mollit. Quædam non uno modo tantum sed etiam duobus *inter se non contrariis* adjuvant."

Internal remedies were as yet taken principally from the vegetable department of nature, but the materia medica had evidently gained improvement by the introduction or more liberal use of many active vegetable substances, either not at all known, or very sparingly used by the Greeks.

Among external remedies Celsus was much attached to cupping with or without scarification, sinapisms, issues, fomentations, baths, and above all the actual cautery, which he used as well with a view to its immediate effects against diseases irremoveable by other remedies, as for the purpose of originating issues, or opening abscesses supposed to be combined with a morbid state of the general system.

Among the earlier successors of Celsus, who gained a high degree of professional celebrity, appeared Areteus, a native of Cappadocia, who practised at Rome, towards the close of the first and early in the second century.

Areteus wrote eight books on the causes, symptoms, and treatment of acute and chronic diseases. These books have come down to us, but not without suffering numerous mutilations, such as were common to works of science, during those gloomy ages of barbarism that succeeded the fall of the Roman empire. For of the 102 chapters into which these eight books were originally subdivided, twenty are entirely lost, and several others are incomplete.

The plan pursued by Areteus in the arrangement of diseases was extremely simple. In the first four books he delivered their history, and in the last four their medical treatment, assigning a distinct chapter to the history of each, or grouping several together when they showed an evident analogy of character. And the same course was observed in laying down the method of cure in each.

In delivering a history of diseases, this excellent writer has manifested great fidelity of description, and has excelled all who went before him, in a scrupulous attention to the various modifications of the pulse, which he always speaks of as being performed by the arteries, whereas his distinguished predecessor Celsus had constantly referred it to the veins.

The history of morbid affections given by Areteus, is concluded by a most animated and melancholy account of elephantiasis, wherein all his masterly powers of description are brought to operate with their utmost energy. Such were the dread and abhorrence excited by this terrible malady, as to sever the tenderest relations in domestic life, and the miserable sufferers were frequently doomed to exile and solitude in the forests, where they lingered out a wretched existence, whence they often attempted to escape by devouring living vipers, with a delusive hope of obtaining a recovery from the healing powers of the flesh of these reptiles, or of inviting death through the venomous wounds they might inflict. From the excessive pain attending elephantiasis, its

insupportable loathsomeness, its contagious and irremediable character, he considered it as the greatest of all human calamities.

There was little of theoretical speculation in the views of disease entertained by Areteus. He occasionally recognizes the qualities attached by Hippocrates to his humours, as giving a propensity to particular diseases, but most frequently refers their immediate production to errors in diet, or exposure to an unhealthy atmosphere.

If Areteus excelled as a historian of disease, he was no less distinguished as a bold, independent, and judicious practitioner.

In the treatment of chronic complaints, indeed, he had not the advantage of a numerous class of efficient remedies, afterwards brought into view by the laborious investigations of the alchemists, or the more rational cultivators of chemical science. Yet from the lengthy catalogues of vegetable productions that constituted the materia medica of the ancient Greek and Roman physicians, he selected such as were most remarkable for their activity and energy, and applied them with such discrimination and freedom, as must have given him great advantages over most of his predecessors in managing this class of diseases.

But in the treatment of acute diseases he possessed more ample resources. The different modes of subtracting blood particularly furnished him with aids that are seldom applicable to the more protracted forms of morbid affection.

On general blood-letting he placed great reliance in the early stages of inflammatory complaints, and in the celerity with which the blood was drawn, the quantity taken at any one time, and the frequency of repetition, he was governed by maxims that have received the approbation of the medical world to the present day.

When he had carried general blood-letting as far as he judged compatible with the safety and advantage of his patient, but without entirely subduing local inflammation, he went on to use topical bleeding by leeches, or cupping and scarification, as near as possible to the suffering organs, "plus enim quam venæ sectio proficit, et vires nequaquam labefactat."

In cases where he considered the head to labour under much oppression, as in vertigo and epilepsy, he frequently opened the branches of the temporal artery.

In the early stages of acute diseases he often gave white hellebore, but afterwards kept the bowels in a solvent state

by clysters, being well aware of the inefficiency of the common purgatives, and unwilling to continue those of a drastic character.

He used a great variety of mild diluent and demulcent drinks, well calculated to abate irritations, or to promote the excretions as well by the skin as the urinary organs. He also employed a number of external auxiliaries in the form of cataplasms, fomentations, liniments, and rubefacient unguents.

In phrenitis and other violent affections of the head, he made a free application of refrigerant lotions, while in tetanus he applied to the parts more immediately distressed, bags of heated millet, or bladders partially filled with hot oil.

Areteus also manifested great attention in regulating the diet of the sick, the temperature, size, and even the furniture of their apartments, the deportment of those visiting or attending them, and whatever might influence either their mental or corporeal feelings.

After the violence of acute disease had given place to a state of languor and debility, he advised a light but invigorating diet, with wine either in its pure state, simply diluted, or conjoined with the patient's food. Indeed on wine he placed his principal reliance in all cases of great exhaustion. "Verum si multus sudor emanet, arteriæ jam micare desinant, vox acutior reddatur, et pectus calore destituatur, vini quantum potare possit concedendum, in solo enim vino refrigeratis spes vitæ posita est."

In chronic headaches not removable by milder measures, he advised the actual cautery, and in obstinate cases of epilepsy, he sometimes to this measure added perforations of the cranium.

Along with the well regulated practice of this excellent writer, he has made us acquainted with some of the disgusting popular remedies of his day, the hideous offspring of undisciplined credulity, ignorance, and superstition, and to which he never condescended to yield the sanction of his approbation or example.

In treating of the cure of epilepsy, (a disease viewed by the Romans with the utmost abhorrence, insomuch that its unfortunate victims were often excluded from human society) Areteus gives this appalling information: "Fama est et vulturis cerebrum, et crudæ fulicæ cor, et domesticos feles comesos, morbum discutera. Ab ego istorum periculum non feci. Nonnullos autem vidi, nuper jugulati hominis vulneri phialam subjicientes, atque inde haustum cruorem bibentes.

Omigentem necessitatem, quemqam sustinere, malum malo piaculo depellere ! atqui ex ea ad sanitatem, nec ne, isti pervenerint, nemo verè mihi affirmare potest. Quin et quendam autorem legi qui humanum jaceor epulandum apponi præcepiebat."

Areteus was the last of the Roman authors who cultivated medicine on the substantial basis of experience and observation. Mutilated and defective as his works have come down to us, they yet present an invaluable treasure, as well in the faithful history of diseases, as in the excellent practice they set forth. And if candour and independence, if anxious and successful labours for the amelioration of the human race, are worthy of the gratitude of posterity, no writer of antiquity has a fairer title to imperishable fame.

The next writer of distinction after Areteus was Claudius Galen, a native of Pergamus in Asia Minor, who to all the advantages derivable from the literary and scientific institutions of his native country, added those of a very liberal medical education, at the celebrated school of Alexandria.

After closing his academical studies, Galen settled at Rome about the middle of the second century. In this great metropolis of ancient Europe, alike renowned in that distant age, for science and for arms, he found a vast variety of medical opinions prevailing, many of which formed the insignia of regular sectarian divisions.

But affecting to scorn every thing like a servile edherence to authority, Galen professed himself the advocate of whatever was most valuable in the writings of all physicians, without regard to the sect to which they might have become attached. On this fair and liberal principle he considered Hippocrates as entitled to more regard than any other writer, and accordingly the opinions of that long revered author formed the fundamental principles of his system ; serving as an outline, whence the details were furnished, from the ample resources of his own labour and luminous talents.

Galen furnished but little in the department of anatomy that could strictly be considered his own. He is, however, entitled to the gratitude of posterity, for his laborious collection of such anatomical facts as were known during the age in which he lived, as well as his bold refutation of some errors of universal prevalence, at that school wherein he had first been taught the rudiments of medical science. It was a received opinion at that distinguished seminary, that the arteries distributed air throughout animal bodies. In controverting this doctrine, he laid bare a portion of living artery,

tied it in two places, and then opening it between the ligatures, demonstrated that blood alone issued. But mark the egregious error into which he was immediately seduced ! he concluded that arteries and veins, alike answered the purpose of distributing blood to every part of the body ; but that the florid arterial blood contained a larger portion of air than the dark coloured blood of the veins, which is clearly a modification of the theory of Hippocrates, for whom an unbounded veneration often misled him, with all his loud sounding professions of independence.

Galen commented on some of the surgical writings of Hippocrates, and gave an original work on the structure and application of bandages. But beyond these he contributed nothing towards the improvement of surgery.

He maintained that the human body was composed of the four elements of Hippocrates, namely, fire, air, water and earth ; to which he attached the qualities of heat, cold, moisture and dryness. A proper balance of all these elements and qualities constituted health, wherein all the functions were performed with facility, and unaccompanied by any painful sensation. But wherever this balance was destroyed, a morbid temperament was the result, in which one or more of the functions was imperfectly or painfully performed, or ceased entirely. And the different forms or degrees of this imperfect or painful state of action, constituted the various forms and degrees of disease. With these general views, Galen also taught with Hippocrates that the living body may be divided into solids, humours, and spirits.

The solids he again divided into simple or inert matter, and compound or organic solids.

The humours or fluids he arranged under four heads, blood, phlegm, yellow and black bile, and combining with them the four elemental qualities of Hippocrates, he held blood to be a hot and moist humour, phlegm to associate moisture and coldness, yellow bile he considered hot and dry, and black bile, a cold and dry humour.

Of the spirits entering into the composition of living systems, he made a threefold distribution, according to their supposed importance in the animal economy. The first or natural spirit he described as an attenuated vapour, emanating from the blood in the *liver*, an organ which he has at the same time invested with the function of sanguification. The spirit thus produced being transmitted to the *heart*, and mixed with the air received by respiration, formed the second or

vital spirit, and the vital spirit carried to the *brain*, and subjected to the action of that organ became animal spirit.

These three kinds of spirits thus prepared, became the instruments of the power of faculties resident in the liver, the heart, and the brain. The natural faculty of presiding over the nutrition, increase and reproduction of the body was assigned to the liver; to the heart he attached the vital function of communicating heat and life to every part through the arterial tubes; while in the brain he proceeded to locate the animal faculty, embracing every thing belonging to mind; and considered this organ as not only distributing the power of sensation and motion by means of the nerves, but as exercising a controlling power over both the natural and vital faculties.

Galen subjected his threefold classification of functions to further subdivisions, conformable to which, the internal natural actions embraced digestion and sanguification, while the external included the distribution of blood by the veins, subserving the purposes of nutrition, enlargement, and the preservation of the species.

The internal vital actions consisted of the passions and emotions of the mind, the external of the pulsations of the arteries, and their distribution of vital spirits, diffusing life and heat to every part of the system.

The internal animal functions were memory, imagination and judgment, the external were the five senses and motion.

According to these ingenious hypotheses, Galen's method of maintaining health, consisted in a careful application of agents, with which he had in the luxuriance of his fancy, proceeded to endow the elements of animal bodies. And whenever any considerable deviation arose, in the nearly balanced arrangement of the elements and qualities, wherein health was supposed to consist, so as to introduce a state of disease; it became the province of the physician to counteract these deviations by the application of agents of a contrary tendency. Hence morbid coldness was to be cured by the agency of heat, morbid heat by the application of cold, and in like manner excesses of dryness or moisture, were to be removed by remedies, supposed to possess tendencies to moisture or dryness. Hence the practical maxim of this celebrated writer, "*contraria contrariis medentur.*"

The materia medica of Galen was with singular felicity accommodated to the views he entertained of health and of disease. He supposed particular remedies to be formed of the same element with animal bodies, and to be variously

endowed with similar qualities. While some were distinguished as being cold, hot, moist or dry, others possessed a plurality of these properties, and they were also distinguished as holding one or more of them in four different degrees, either singly or in combination. His remedies consequently formed in the estimation of their author, an exact counterpart to every morbid state, to which he intended they should be applied.

Had his views of disease and its variegated remedies been founded in nature and in truth, the application of Galen's principles were certainly calculated, not only to exempt man from the misery of disease, but to confer on him an enviable immortality. But unfortunately they had no foundation, except in the luminous imagination of their author, or of those who looked to him with sentiments bordering on adoration.

Yet so plausible were Galen's speculative views of health and disease, as well as the qualities he maintained to be inherent in his remedies, and so exactly did these remedies appear fitted to operate on the diseases with which he had arranged them, and moreover his doctrines were so clearly grafted on the principles of Hippocrates, long held in high and general veneration, notwithstanding the opposition they occasionally met with from distinguished characters of the Alexandrian school, that they acquired a vast degree of popularity during the life of their celebrated author, and with a few exceptions governed the opinions and the practice of medical men, even till the comencement of the sixteenth century.

The pharmacy of Galen contained little that can prove interesting to a modern student. Instead of the simple forms of prescription that prevailed among the early Greeks, numerous compound medicines had been introduced into practice, long before the age in which he flourished; and he added considerably to their number, particularly by throwing into the same composition, a multitude of ingredients of similar properties, from a ridiculous opinion that the virtues of the compound were thus greatly increased.

His labours, however, tended to something like system in pharmacy, as he endeavoured to arrange his remedies so as to accord with his theories of health and disease. With these modifications, the maxims taught by Galen respecting diet and medicines, were very similar to those of Hippocrates, and the articles of the materia medica, were still taken almost exclusively from vegetable productions. And though the compounds of these bodies were now very numerous, yet in

consequence of the want of chemical knowledge, there were but few forms of preparation associated with the use of them, powdering, boiling, or infusing, being almost the only pharmaceutical processes to which they were subjected.

During the early ages of Greek and Roman learning there prevailed not only such extreme diversity of individual opinion among the votaries of medical science, as may always be looked for among men engaged in pursuits of a speculative character; but this diversity formed the ground work of sectarian distinctions that subsisted for many centuries.

Thessalus and Draco the sons of Hippocrates, and Polybus his son-in-law founded the sect of dogmatists; and Polybus is considered as in part at least, the author of Hippocrates's book on the nature of man, which contains the leading doctrines of the dogmatic sect.

This class of physicians, as the basis of their reasoning, rested on the various fanciful hypotheses they had adopted, and which they vainly dignified with the name of philosophical theories, and whereby they attempted an explanation of whatever was supposed to belong to physiology, pathology, and practice. They considered themselves the only national practitioners, and under the influence of their delusions, the greater part of the medical world were for upwards of twenty centuries dissuaded from embracing the true method of improvement by observation and induction.

On the other hand the sect of empirics, so called from the Greek word εμπειρια, experience, founded their system altogether on experience, and in their leading principles differed but little from the disciples of Bacon in modern days. There was much of excellent observation and good sense in their writings, and for most of the valuable improvements in practice, we are indebted to those who have pursued the plan first pointed out by them.

It is uncertain at what time this sect of physicians arose, but they seem to have been regularly formed about the middle of the third century before the Christian era. Serapion of Alexandria was then at their head, who, as well as Philinus, another distinguished empiric, were the disciples of Herophilus, from whom it is probable they had both received the views leading to this professional distinction.

The great diversity of opinion prevailing among the ancient physicians, as to the general remote causes of disease, gave the empirics many advantages over the dogmatists, of which they failed not to avail themselves in argument. How, said the empirics, are we to discriminate between the true

opinions and those founded in error, all resting on principles equally gratuitous? Hippocrates supposed disease to originate principally in disordered respiration, Herophilus in vitiated fluids, while Erasistratus attributed fever and most other maladies to the blood entering vessels intended by nature only to receive air, and Asclepiades to an obstruction of the pores by corpuscles or atoms. Now all these theories are mere matters of supposition, and we know no principle on which the suppositions of one set of philosophers are to be preferred to those of another, and consequently discover no legitimate authority for adopting either.

Nor was there less diversity in the physiological opinions of the dogmatists themselves, for respecting digestion, which they all admitted to be a function of the very first importance, many of them embraced that of Hippocrates, which referred it to heat, while Praxagoras attributed it to putrefaction, Erasistratus to mechanical attrition, and the followers of Asclepiades maintained that the food underwent no change, but in a crude state was distributed to every part of the body.

About a hundred years before Christ, Asclepiades of Bythinia, affecting to hold in contempt all preceding theories of disease, endeavoured to explain and remove it by a modified application of the atomic theory of Epicurus, considering stricture and relaxation of pores as its ordinary causes. He relied principally on regimen, frictions, and gestation, and occasionally blood-letting and clysters, but disapproved of emetics and cathartics. In diseases of debility or relaxation he used wine. Asclepiades was succeeded by Themison, of Laodicea, who is considered the founder of the methodic sect, though he certainly derived its leading principles and practice from Asclepiades.

The disciples of this sect were soon satisfied that these opposite states did not, by any means, embrace every variety of disease, and accordingly they admitted a mixed state, which of course required remedies both of a relaxing and constringing quality.

Of most of the once distinguished physicians whose names have been hastily adverted to, as well as many others now passed over, hardly any other memorial remains, save the scanty information to be gleaned from the writings of Celsus and Galen, their own works having perished amid the ravages of time.

Ere the time of Galen, Rome had passed the period of her meridian splendour. The dignified purity of sentiment and of conduct, the patriotic and liberal emulation which, in

the days of her consular government, patronized and protected whatever was useful or ornamental to the state, were no longer known save in the annals of her historians. She had exchanged the high standing of an illustrious commonwealth, for the contemptible appendages of an imperial diadem. And while her sovereigns were sunk in an abyss of cruelty, extravagance, and the most brutal vices, whereby splendour and distinction rendered their characters every way more hideous and deformed; the people had lost much of that high spirit of justice and of independence, which, in other ages, had rendered them equally formidable to foreign aggressors, or such as would attempt to trample on their rights as Roman citizens.

In this daily increasing state of avowed contempt or silent apathy for all that was good and great, the popular taste for letters and science suffered a proportional decline; so that after Galen there was hardly a Roman author on medicine, whose writings were worthy of being transmitted to posterity. Indeed, a period of intellectual darkness ensued, which obscured the whole field of science, and prevailed with little interruption till the revival of letters, and the introduction of the art of printing, in the fifteenth and sixteenth centuries.

During this gloomy period, anatomy was, if possible, more retarded in its advances than any other department of medicine.

From the days of Erasistratus and Herophilus, Alexandria had been the most celebrated school for anatomical improvement. Indeed such was the estimation in which it was generally held, that all the medical students of Greece and Rome, as well as the adjoining countries, who were ambitious of excelling in their profession, aimed to be educated at this far famed University. And such an education conferred on them a standing, and a weight of character, that no other advantages were found competent to bestow. Dreadful then must have been the injury to anatomy, and indeed to medicine generally, when early in the seventh century, this venerable seat of learning became a prey to the ravages of war, and perished in that awful conflagration, which immediately succeeded the capture of Alexandria, by a ferocious barbarian foe.

From this disastrous period, medicine passed almost exclusively into the hands of the Arabians, whose religion prohibiting the dissection of dead bodies; it is obvious they could contribute little to the advancement of anatomy. Nor did the writings of the Arabian physicians ever furnish any sug-

gestions tending to its improvement, as those who directed their attention to this branch of medicine, were servile copyists of the Greek and Roman authors, or plagiarists of one another.

It is said that in the tenth century Constantius of Bagdat, brought to the school of Salerno in Sicily; the prevailing doctrines of the Arabian physicians, and that anatomy was slowly revived in this seminary. Slow indeed must have been its revival, if we are correctly informed that nearly two centuries afterwards *Alhazan*, a learned Arabian resident in Spain, acquired distinction by giving a tolerable description of the eye.

During the fourteenth century, Mundinus dissected human bodies in Italy, whence the practice gradually extended to other European countries.

In the succeeding age the Turks having subjugated Greece, the oppressed inhabitants sought shelter from tyranny and superstition, by retiring into western Europe; carrying with them the medical writings of their ancient countrymen, mutilated indeed, and defaced by the unfavourable situations wherein they had been placed during many successive centuries. These works were soon translated into different languages, and their diffusion was the more readily accomplished in consequence of the art of printing having been discovered about the same time.

The superiority of the Grecian over the Arabian writers was every where admitted, and in all anatomical questions they were recognized as the oracles of truth.

From the time of Galen to the seventh century, appeared Oribasius, Ætius, Alexander Trallianus, and Paulus Eginetta, whose writings give them no title to be considered in any other light than mere compilers of surgery.

The fall of Alexandria, before the military barbarism of the Saracens, proved for a long time ruinous to surgery, long taught at that celebrated University.

The Arabians having possessed themselves of the Greek manuscripts, proceeded to translate and publish them as their own, encumbered with a mass of annotations, that rendered them infinitely less valuable than the original works. And among these compilers the most distinguished were Rhazes, Avicenna, Averrhaes and Albucasis, who lived from the tenth to the twelfth century.

They, however, invented many instruments and machines, which since the introduction of late improvements, have become of little estimation. Indeed many of them were more calculated to inspire terror than alleviate distress. Their

methods of arresting hemorrhage were peculiarly cruel, and among others included that of searing with hot irons, and plunging naked stumps into boiling pitch.

Albucasis was aware of the importance of anatomical and pathological knowledge to a successful practice of surgery, and earnestly pressed the acquisition of it. He was much attached both to the actual and potential cauteries, particularly the former, by which he generally opened abscesses. He is the first writer who has given distinct descriptions and figures of surgical instruments, with the manner of applying them.

About the same time lived Avenzoas, at Seville in Spain, an eminent surgical practitioner. He abstained, however, from performing lithotomy, his profession of the Mahomedan religion forbidding the handling, or even the inspection of the naked genitals, to which his blind devotion to Hippocrates may also have contributed.

The first English surgeon of whom we have any account, was John Ardern; who settled in London after the middle of the fourteenth century. He is principally distinguished as having improved the operation for fistula in ano, and inventing an instrument for throwing up clysters. However his improvement of the operation for fistula, consisted rather in restoring the use of the knife, first mentioned by Celsus, but to which another of that great author's modes had long been preferred, namely, the slow division by a thread, which after a second discontinuance has again been lately introduced.

In the department of midwifery, Oribasius, generally a compiler, has yet given numerous original observations, and has recognized many causes of difficult labour, not to be found in the writings of his predecessors.

In cases where retention of urine or fæces had subsisted for any length of time, he advised their evacuation by the catheter and by clysters.

Almost every case of preternatural labour, he endeavoured to reduce to a natural presentation, and when this was apparently impracticable, he advised turning and bringing the fœtus by the feet.

In instrumental delivery he often used two crotchets at the same time, and retained many ancient practices long since obsolete, particularly that of dismemberment and decapitation of the fœtus, in very difficult cases of preternatural parturition.

Albucasis, who lived at Cyropolis on the Caspian sea, during the twelfth century, introduced a forceps with teeth for the

purpose of crushing the head, where its diminution was required.

Paulus of Egina, an obstetrical writer of the seventh century, has been represented by the Arabians as the first male practitioner of midwifery. But imperfect as were both the theories and practice of preceding authors, they could not have been attained without much actual experience in this art; and moreover, the measures pursued, were often of that bold and sanguinary character, for which females have at no time been qualified. It seems reasonable therefore to prefer the opinion of other authors, who insist that midwifery was occasionally practised by men from the earliest ages of medicine, though as now, it was most generally confined to females, on principles of delicacy, whereof all civilized nations have felt a strong influence.

In the practical authors between the fourth and fourteenth centuries, we find hardly any thing new or interesting. They were satisfied to trudge along in the beaten track that had been pointed out to them by Galen, and would have deemed it little short of impiety, to question in the slightest degree the correctness of his views.

Oribasius a distinguished physician of Sardes, in the fourth century, was a voluminous writer, his works being almost entirely made up of compilations, and he so much affected the hypothesis and practice of Galen, as to be generally known by the nickname of *Simia Galeni.*

Aaron or Ahron, who practised with reputation at Alexandria, translated the practice of the Greeks into the Syriac language, in the year six hundred and twenty. He is the first who has mentioned and clearly described *small-pox*, probably introduced into Alexandria, by the Arabians, on their conquest of that ancient city. His writings are entirely lost, with the exception of a few fragments collected by Rhazes, who has rendered justice to his memory, by conceding to him the first description of *small-pox.*

About the middle of the ninth century, Rhazes practised with distinguished reputation at Bagdat, where he enjoyed ample opportunities of improvement in the superintendence of a large hospital. Yet though a voluminous writer, he compiled principally from the Greek and Roman authors, with whom he was profoundly acquainted.

The history and treatment of *small-pox* engaged a considerable portion of the attention of this author, and the disease being unknown to Galen, the great polar star of medical opinion, on all subjects to which he had directed his judg-

ment or his fancy. Rhazes was left free to consult the suggestions of a mind every way qualified to decide correctly, when prejudice and authority forbore to interfere. Previously to his time, the heating plan of treatment had generally prevailed, and doubtless he had numerous opportunities of marking its deleterious effects. It was probably from this consideration that Rhazes was induced to adopt a course rather leaning to the opposite extreme. However, upon the whole, his method of managing *small-pox* approached very near to that which was pursued by the most approved practitioners of the eighteenth century.

He wrote also of the diseases of children, a subject in a great measure overlooked by preceding authors, and finally he manifested no small share of courage and independence, in recommending the medical use of chemical preparations, in opposition to the decided opinions and authority of Galen.

Unfortunately the successors of Rhazes soon returned to the old heating plan of practice in *small-pox*.

Avicenna, Avenzoar, Averrhoes, and John of Gaddesden, all successively advocated and supported it, and with what a disastrous result, may be judged from the histories of numberless cases of this formidable disease, treated on similar principles in the superstitious districts of northern Europe, during the seventeenth and eighteenth centuries.

Averrhoes denied that small-pox could affect the same person more than once, but Rhazes maintained that it might appear twice or even three times in the same individual.

The contagious character of small-pox was first correctly understood and clearly shown by Hali Abbas, one of the immediate successors of Rhazes.

During the age of Roman learning, chemistry, as a science, had not acquired an existence, having amounted to nothing more than a few ridiculous speculations respecting the supposed elementary principles of fire, air, water, and earth.

The only acid known in these days was impure vinegar, and the utmost knowledge of alkalies was limited to a few loose observations on the properties of soda.

Chemistry is said to have been taught in the school of Alexandria; but with what success we are not informed, as no chemical writings from that source have descended to us. Its advancement must probably have been extremely limited, as it was still in a very backward state many centuries after Alexandria was destroyed.

The wars of the Saracens immediately succeeding the ap-

pearance of Mahomet, sanguinary and destructive as they proved in those countries which were overrun by these ferocious barbarians, appear nevertheless to have been extremely beneficial, in originating an active spirit of chemical inquiry in southern Europe.

The Arabian physicians, among whom the infant branches of medical science, were then principally cherished and protected, retiring from the oppressive grasp of savage warfare, carried with them whatever of value had been saved from the wreck of Greek and Roman learning, as well as the improvements slowly introduced among them during several centuries that Gothic darkness had overspread the western world.

Rhazes, Avicenna, and others of distinguished name, had introduced among the inhabitants of Europe, many useful preparations in pharmacy, and had themselves made important improvements in pharmaceutical operations, particularly in the art of distilling. And about the same time chemistry was enriched by a discovery of the vitriolic, muriatic, and nitrous acids, a discrimination was made between potass and soda, and the method of preparing alcohol was brought into view.

At the same time that chemistry was taught in Alexandria, the Arabians were zealously engaged in the pursuits of alchemy, whereby the transmutation of the baser metals into gold, was ardently sought after and fondly expected.

The delusions of the alchemists had gained their utmost height, when the conquests of Arabian superstition had destroyed the celebrated library, and with it the distinguished school of Alexandria. They were transferred in full vigour, and diligently cultivated wherever the Mahometan government extended its influence.

Afterwards, the crusades gave a new direction to human speculation, and for several centuries the study of alchemy was in a great measure deserted.

But in the thirteenth century the application to metallic substances of the mineral acids, and other active agents lately discovered, brought into view an extensive and fascinating field of observation, and gave a new impulse to alchemical pursuits, wherein the best talents were zealously enlisted for several succeeding ages.

In the mean time the madness of fanaticism having in a great measure subsided, left the minds of men free to embrace the first alluring idol that might be presented to their view. Thus two powerful reasons co-operated in persuading their return to an object of ancient idolatry, heightened by the

disappointments they were now smarting under, from having engaged in an unprofitable war against infidels.

Among the new advocates of alchemy were found even Albertus Magnus, Roger Bacon, and Raymond Lully; men of high scientific distinctions, and who at the same time cultivated the true experimental philosophy.

The patronage of such eminent philosophers gained for it a currency far beyond its merits, particularly among the clergy, who at that time possessed almost the entire learning of the age, and even the head of the Romish church, John XXII, was so weak, or so wicked, as to pretend, in his treatise on the art of transmutation, that he had himself made 20,000 pounds weight of gold from the inferior metals.

Yet amidst the endless variety of experiments instituted for the discovery in question, many facts arose well calculated to unfold the true principles of chemistry, and they were fortunately communicated without much of that reserve and obscurity which distinguished their authors, while treating professedly of alchemy.

It is astonishing with what perseverance and ingenuity men of the first distinction continued for many ages to pursue the wild and delusive object of converting the inferior metals into gold, an object which must inevitably have defeated itself in the moment of attainment.

In their ardent pursuit of wealth, the Alchemists appeared to have entirely lost sight of the well ascertained maxim, that the relative value of any exchangeable commodity, is in an inverse ratio of its abundance, and that if the precious metals could ever have been procured in greater quantity, than the cheap materials from whence they were attempted to be fabricated, they must have quickly fallen to a more depreciated value.

While it must be admitted that gold and silver do in part owe the high estimation in which they are held, to their imperishable character, doubtless it is still more to be attributed to the sparing hand with which nature offers them to the industry or the cupidity of man.

And if we take into view the boundless variety of useful purposes to which some of the less esteemed metals are daily applied, whether in the useful arts, administering to the amusement and comfort of man, or in their application to agriculture, affording whatever is agreeable to his taste, refreshing to his corporeal feelings, or sustaining his existence as an organized and intelligent being, or whether we consider their powerful agency, in averting or removing those morbid states,

whereby he is occasionly doomed to suffer, we will clearly perceive with how little reason their estimated values have been so widely placed.

Moreover, if with these views we reflect upon what would be the situation of man, were iron and steel to become as scarce as gold and silver now are, even though the abundance of these highly esteemed metals were instantly augmented beyond what has ever been known of iron in all its various forms, would it be extravagant to pronounce an opinion that a pound of iron is of more intrinsic value than a pound of gold.

But however absurd the object in view, however extravagant the expectation of transmuting the inferior metals into those of highly appreciated value; we will in some measure forbear to deplore, that such an immense waste of time and labour, so much of the best talent of civilized man, should have been sacrificed in a pursuit, of all others, the most completely visionary when we reflect that the same persevering application of time, labour, and ingenuity, brought forth a vast number of important chemical facts, which otherwise might have remained long unknown, and thus, in the end, hastened the development of an interesting, beautiful, and highly useful science.

Early in the fifteenth century, alchemy began to be pursued with less ardour, at the same time that a taste for chemical study was daily gaining ground, and received an additional stimulus, from the successful application of various chemical products, to the practice of medicine.

The field of materia medica was feebly cultivated from the days of Galen to the revival of learning in Europe.

Oribasius was a diligent collector of formulæ, and fond of local bleeding, which had become of less frequent use than among his illustrious predecessors, Celsus and Areteus.

Alexander Trallianus introduced a free internal use of iron, a practice extremely limited, with some other improvements of no great value. He followed the Hippocratic and Galenian doctrines, though with less servility than many others, but was extremely credulous and superstitious, relying greatly on the efficacy of charms and amulets.

The purgative property of rhubarb was first noticed by Paulus Eginetta.

On this branch of medicine Avicenna was a voluminous copyist, but introduced nothing original except a few vegetables unknown to Dioscorides.

In the thirteenth century Actuarius of Constantinople wrote on distilled waters, and on mild cathartics, as manna, cassia,

senna, myrobalacus, and some others, and greatly extended their use, heretofore very limited.

Indeed the most valuable improvement by the Arabian writers, was the introduction of the mild cathartics, and a much more abridged use of the drastic kind than had hitherto prevailed.

Even their profound researches in alchemy were attended with little immediate advantage, as the materia medica of Galen continued to be received with servile devotion to the close of the fifteenth century. But they nevertheless laid the foundation for very important improvements in subsequent periods, by introducing into practice a number of metallic preparations of great power and efficacy.

So far we have groped our way through what may be properly termed the dark ages of medicine, extending to not less than two thousand years, during which the sum of improvement throughout the different branches of our science, fell greatly short of what many of us have witnessed within an equal number of days.

In anatomy, where (passing over the intricacies of minute structure) at least such advances as were conducive to the improvement of surgery, would seem to a modern student to have been of easy attainment, only a few feeble steps were taken, and these most frequently in error, while surgery itself presented a series of terrific alternatives, whence death would often be hailed, as the most welcome means of deliverance.

The physiology of those distant times often indicated a degree of ingenuity to which we are forced to accord our admiration, yet as the foundations of medical philosophy when scanned with the eye of reason, and held forth in comparison with nature and with truth, the merest novice in science of the present age, could not avoid beholding with scornful derision.

Nor was the practice of the ancients less defective and erroneous than the gratuitous hypothetical principles whereon it was attempted to rest it. A blind confidence in the sanative tendencies of the system, frequently lost the most favourable opportunities of combating disease during its early stages, and the feeble remedies subsequently administered, were but poorly calculated to procure a restoration of health, after the force of habit had been superadded to the violence of the original malady.

Moreover the inefficient remedies of those days, from their bulk, their form, and their sensible qualities, necessarily proving highly repulsive to irritable stomachs, already enfee-

bled by disease; their administration in suitable quantities, must have been generally difficult, often impracticable.

After passing through the gloomy scenes of this medical midnight, it might be grateful and refreshing to take an excursive view of the progressive gradations of improvement in succeeding ages, when the human mind was every day becoming more and more disenthralled from the fetters so long imposed on it by credulity, superstition, and above all a most obsequious veneration for ancient authority.

We should then behold Vesalius arrayed in the sublimity and beauty of dawning science, dissipating the mists that so long enclouded anatomy, and unfolding much of the hitherto unexplored mechanism of living systems; while the illustrious Pare, seizing with avidity on the valuable discoveries of his predecessors applied them with unwearied diligence to the improvement of surgery, and with such eminent success, that while it acquired in his hands great comparative efficacy and safety, it was disarmed of a large portion of its ancient terrors.

Then should we discover the long venerated systems of Hippocrates and Galen, gradually giving way before the judicious and logical inquiries of a race of intelligent medical philosophers, disciplined by the immortal Bacon to reason from experiment and observation; while the inert yet laboured and intricate materia medica ingeniously grafted upon those systems, was suddenly overthrown by a triumvirate of alchemical enthusiasts, and rapidly supplanted by a class of remedies of infinitely superior efficacy, as well as more elegant and agreeable forms.

Instead of the meagre catalogues of vegetables delivered by Dioscorides and Pliny, accompanied by descriptions seldom intelligible to a modern student; which with some inconsiderable additions by the Arabians, constituted the whole of ancient botany; we should be delighted with the contemplation of ample collections of nature's most elegant and useful productions, formed by the active exertions of ingenuity and industry in every region of the habitable globe; and with histories so accurate, and arrangements so systematic as to convey lucid and correct ideas of their form and structure, amidst all the various and beautiful diversities of which they are susceptible.

We should then be introduced to an acquaintance with their wonderful powers in alleviating or removing numberless misfortunes, the lot of afflicted humanity: we should discover how amply in health they contribute to the comfort, the en-

joyments, and the sustenance of man; and finally the degree of improvement they derive both in quality and abundance, from judicious and persevering culture; thereby furnishing leisure at the same time for scientific inquiries and the study of the useful arts, as well as a deliberate investigation of our domestic, civil, and political rights, and the best means of preserving them from injury; by all which they ultimately prove the most certain, permanent, and efficient sources of happiness and independence.

But, gentlemen, to indulge farther in so pleasing an exercise, would introduce inquiries and speculations of such boundless extent and variety, as are altogether incompatible with the restricted limits, necessarily prescribed to an annual essay.

REVIEWS.

Quidquid venerit obviam, loquamur
Morosa sine cogitatione.—*Martial.*

ART. V.—*Medical Essays.* By MARSHAL HALL, M. D. F. R. S. E. Physician to the General Hospital, near Nottingham, &c. &c. London, 1825. p. 96. 8vo.

THIS little volume comprises three essays: the first, "on the effects of intestinal irritation;" the second, "on some effects of loss of blood," and the third, "on exhaustion and sinking, from various causes." From a perusal of it we will perceive, "that there are cases which require to be very cautiously distinguished from inflammation, and which have, by no means, hitherto received the attention which they imperatively demand." The author, in his preface, takes occasion to remark, "that these cases are extremely apt to occur in the puerperal state;" and that these essays are only to be considered as a prelude to the publication of a treatise on puerperal diseases.

The subjects of which they treat appear to have escaped, heretofore, almost entirely the attention of medical writers. We can, therefore, recommend them to the profession, as containing many novel and important observations, and, in the language of the writer, "materials for thinking, and suggestions for renewed inquiry."

The object of the first essay is to call the attention of practitioners to a state of irritation in the primæ viæ, which is alleged to simulate other diseases. The author remarks, that "the case resembles, in many instances, the most acute *phrenitis*,—and it is this form of the disorder in particular to which I wish to draw the attention of the profession. In

other instances the affection has assumed the character of inflammation of the intestines or peritonæum. Occasionally the seat and kind of pain have led to the suspicion of pleuritis. Or attacks of palpitation have suggested the idea of disease of the heart.

"Very frequently two or more of these affections take their rise in succession, the first or second probably ceasing entirely before the subsequent one is established,—an event which has, I believe, often led to an erroneous idea of the *metastasis* of inflammation or other morbid affection from one organ to another."

From Mr. H's. statement it appears, that "this morbid affection" is by no means unfrequent, and therefore it should be established and regarded, in its several forms, as a distinct class of disorders, to be distinguished from inflammation, which it seems to counterfeit so well.

The subject is introduced to the reader by the recital of a case which has been published in one of the most respectable journals of the day, and was regarded by the gentleman who communicated it, as an example of migratory inflammation, or metastasis. Of this case, our author takes a very different view: he believes it to have depended upon intestinal irritation.

We shall present an abstract of this case:—Mrs. F. a young married lady, was indisposed for some days, owing to slight cold. Her medical attendant, Mr. F. had bled her copiously the preceding evening, apprehending symptoms of enteritis. She was of a spare and slender make, generally healthy, "but subject to *severe and frequent constipation of the bowels.*"

On the reporter's first visit he found enteritis established in its most acute form. She was bled ad deliquium—warm bath—calomel and nitre, three grains each, every four hours—senna and manna. Symptoms had remitted next day—antiphlogistic treatment continued, leeches to the abdomen. Third day, mouth sore—every symptom favourable. Two days after, was requested to see the lady, and found *very marked symptoms of inflammation of the brain,* (the bowels had become constipated.) No stimulant in food or drink had been given. The *intolerantia soni et lucis* great—no delirium. Copious depletion, &c. was again had recourse to. At every visit but his last the reporter was obliged to bleed, ad del. or until sensible relief was obtained, besides numerous leeches every day. At his "fourth visit, the pain in the head was sensibly abated, but symptoms of *abdominal in-*

flammation had *supervened.* This was overcome by another bleeding. At his sixth visit, he left her with sanguine hopes of her recovery, yet, within a week, he "was again called to her, in consequence of a severe *attack* of *pleuritis.*" The pain in the head had returned after he saw her last—her brother had continued the previous plan of treatment in a modified degree. As she slowly recovered, difficulty of breathing and pain in the side came on. At length, this marked case of pleurisy was established. The evacuating system was again had recourse to; and, finally, by repeated bleeding, leeching, and blistering, the complaint was permanently subdued, leaving the patient terribly worn down. Mr. H. next proceeds to detail the principal circumstances relative to the causes, symptoms, diagnosis, history and treatment of this morbid affection. These we shall present, as far as we can, in his own words.

"*The Causes.* The principal cause of this morbid affection is a state of intestinal irritation of some duration, arising from a loaded condition of the bowels or from a scybalous or disordered condition of their contents. But, although the presence of this cause appears essential to the production of the complaint, it is important to remark that I do not remember to have observed any example of it arising quite spontaneously from this cause *alone.* In every case there has been some superadded cause,—some shock sustained, or some extraordinary effort made on the part of the constitution, to rouse the dormant irritation into effect. Unusual fatigue, exertion, loss of rest, anxiety, or alarm,—a fall or similar *accident,*—exposure to wet or cold,—any cause of weakness and especially of exhaustion, and particularly the combination of some of these circumstances always attendant on parturition, are the principal exciting causes of this affection. The patient has, in many instances, been subject to indigestion. And he is particularly liable to experience returns of the affection in the same or some other form, until the primary disorder and the consequent debility be finally removed."

"*The Symptoms.* This affection generally begins in the manner of a sudden attack. This attack is usually ushered in by rigor,—indeed by a more distinct and decided rigor than is observed in many cases of inflammation; the rigor is usually soon followed by much heat of surface; with the heat the patient experiences some affection of the head, chest, or abdomen, and, indeed, more or less, of all: there are vertigo on raising the head, pain, and some morbid impression

on the mind, panting in the breathing, and fluttering about the heart, with general hurry, irritability, and restlessness; the tongue is white and loaded: the alvine evacuations are morbid, dark-coloured, fœtid, and scybalous, or yellow like the yolk of egg, or of the appearance of yeast; the urine is turbid and frequently deposits a copious sediment."

Our author next details seven cases, for the purpose of illustration, and in order to display the manner in which he was led to adopt his peculiar opinions. Of these we shall select two of the most interesting.

"Case.—Amongst the earlier cases of the effects of intestinal irritation which excited my attention was that of Mrs. Hawkins, a rather delicate, married woman, aged 35. When I was first called to this patient, she appeared to labour under *inflammation of the peritonæum*, the symptoms of which were so severe as apparently to demand the repeated employment of the lancet and application of leeches, so that the patient lost about thirty-five or forty ounces of blood; the bowels were freely purged,—the stools were very fœtid.

"All the symptoms were removed on the third day. I only visited my patient once, and, like the author of the case already given, I had every hope of a speedy and secure convalescence. I was, however, equally doomed to be disappointed. Early on the succeeding day I received an *urgent* request to see her. She had been seized with severe pain of the head, especially over the eye-brows, attended by beating and throbbing, and by the most urgent intolerance of light, so that the eyes could not be opened for a moment for examination; the pain was increased on attempting to sit up erect; the countenance was palish and sallow: the pulse full and frequent; there was no faintness or sighing.

"As this case occurred early in my investigation of the effects of intestinal irritation, I hesitated in determining whether the symptoms were such as I had already witnessed in one or two cases as arising from that cause, or were indicative of inflammation within the head. I prescribed a draught with thirty drops of the tinctura opii and of the spiritus ammoniæ aromaticus, and called again in an hour and a half, not without anxiety. I was greatly relieved to find my patient better in every respect, able to bear the light, suffering much less pain, and having enjoyed a comfortable sleep after a night of wakefulness and distress. Aperient medicine was administered, and, after the full evacuation of the bowels, light nourishment and a repetition of the draught with tinctura opii and spiritus ammoniæ aromaticus, whilst

a cold lotion was applied to the head. On the succeeding day Mrs. Hawkins was better in every respect, but complained of any noise. On the next day she was comparatively well, only suffering from vertigo on raising the head. From this time the recovery was progressive and uninterrupted, the utmost care being taken to regulate the bowels and the diet.

This case appears to me perfectly similar to the one first given, and under similar management, or under the plan of treatment first adopted from the idea of its being inflammatory, would probably have been equally protracted, and the attacks equally repeated in their various forms. It was, I now think, at first *mistaken* for *enteritis:* the symptoms were, in the second attack, those usually deemed indicative of *phrenitis* in its most marked form; yet these symptoms were removed, without the lancet, by an ammoniacal anodyne draught! And the patient had a speedy, safe, and uninterrupted recovery."

"Case.—The next case is that of Mrs. Darley, a young married lady, in the fourth month of pregnancy habitually costive. The present attack came on after much fatigue in travelling; and she is stated to have experienced a similar one formerly.

On the 7th of October, she complained of pain of the head, and leeches were applied to the temples.—On the 8th the pain of the head was more violent and attended with much throbbing of the temples; and to these symptoms pain of the right side under the breast, a sense of tightness across the chest, and hurry in breathing, were superadded. Twelve ounces of blood were drawn, and an efficient aperient medicine was given, and on the 9th and 10th she was much better, and a saline medicine was prescribed.—On the 11th she was again taken worse, after imprudently sitting up: the beating of the temples, tightness across the chest, and difficulty in breathing returned, unattended by cough. Sixteen ounces of blood were taken from the arm with great relief, and the aperient medicine was repeated; the patient was relieved, and continued better on the 12th.—In the night of the 13th the medical attendant received an urgent message to visit his patient, and found her with severe pain and beating of the head, great tightness and pain across the chest, and now with violent palpitation of the heart. Twelve ounces of blood were taken, and calomel and other aperient medicines given, with considerable relief.—On the 14th a physician was consulted, who prescribed the pil. hydrarg. with an aperient draught. In

the night the apothecary was again sent for, all the symptoms having returned, and now, for the first time, with the addition of a slight cough. Eight ounces of blood being drawn, great relief was obtained.—On the 15th the physician was again sent for; ten ounces of blood were taken, with great relief, an aperient, and a mixture for the cough prescribed, with eight drops of the tinctura digitalis purpuræ every four hours.—In the night of the 16th the medical attendant was again sent for,—all the symptoms had returned in a still more aggravated form, the pain of the head, tightness across the chest, palpitation, and cough being extremely severe. Eight ounces of blood were drawn without relief; the head was shaved, a cold lotion applied, and a blister ordered for the back of the neck.

On the 17th I saw the patient for the first time:—there were much pain and throbbing of the *head*, which felt benumbed and heavy as if she could not raise it from the pillow; there had been no sleep; the pupils were extremely small, with intolerance of noise and disturbance of any kind; —there were palpitation of the *heart* and sometimes faintness and a feeling of sinking or dying;—there were a sense of tightness across the *chest*, oppression in the breathing, and a peculiar tracheal or laryngal cough;—some pain in the region of the *uterus* increased by pressure, but no vaginal discharge;—the countenance was usually pale, but sometimes flushed, the tongue extremely loaded, and even black at the back part, the alvine evacuations, on giving purgative medicine, were still, at first, dark-coloured, offensive, and scybalous,—and afterwards offensive and like yeast; the pulse was 120. I was forcibly struck by a general but marked resemblance of this case, to those already given, and to others of the same nature which I had witnessed:—the depleting plan already fully adopted and repeated had proved ineffectual in affording relief; the purgatives hitherto given, were, I believed, inefficient. The plan I proposed was to give efficient purgatives,—to restrain their operation by draughts with tinctura opii and spiritus ammoniæ aromaticus, —to support the strength by means of nourishment given every hour or oftener,—to procure sleep by anodyne enemata, —to guard against exertion or fatigue,—noise or disturbance. The recovery was uniformly progressive; there was not even one recurrence of the painful attacks; the symptoms gradually disappeared, the pulse becoming natural, the pupils of the natural size, the head and chest being relieved, and the bowels daily but fully moved; quiet sleep, and a good appetite

returned; in six days the patient was convalescent; shortly afterwards she bore a long journey home without any ill consequence, and, at the proper time had a safe delivery;" the general symptoms having been already detailed, it only remains to enumerate the local complications more distinctly. "The affection of the *head* consists of the most acute pain, the greatest intolerance of light, and sound, and the severest form of vertigo, wakefulness and distress, and sometimes even delirium, and the pupils of the eyes are often extremely contracted.

The affection of the *chest* is denoted by severe and acute pain of some part, which is apt to vary its situation, passing from one side to the other, or to the *back*, or occupying a situation higher up or lower down; this pain checks a deep inspiration, and even the ordinary breathing, to which it imparts a character of difficulty and anxiety.

When the *abdomen* is affected, there are acute pain, and great tenderness under pressure, in some part, or more or less generally diffused. The attack and situation of the pain is such, in some instances, that the case is with difficulty distinguished from *gall-stones*, though it more generally resembles *enteritis*.

When the *heart* is the seat of this affection, there are violent and terrific attacks of palpitation,—and the course of the carotids and even of the abdominal aorta, is sometimes the seat of violent pulsation or throbbing.

All these affections are apt to occur in sudden attacks, and to recur in paroxysms,—perhaps varying their form,—and exciting great alarm in the patient and his friends, who usually despatch a hurrying message to the medical attendants."

The Diagnosis. "I would first observe that the attack from intestinal irritation, is, in general, more *sudden* than that of inflammation, which is generally formed somewhat more gradually. This circumstance must therefore be cautiously inquired into, and may *assist* the diagnosis.

I believe, too, that the seizure in the former case is attended by *more distinct rigor*, and afterwards by *greater heat*, than in the latter.

The case of intestinal irritation affects, in a marked degree, *more organs at once*, than that of inflammation, which is usually confined, at first at least, to one.

The state of the *tongue* and the condition of the *alvine evacuations* are far more marked by disorder, and the latter are far more offensive, in attacks from intestinal irritation than in cases of inflammation.

The affection of the *head* from intestinal irritation comes on suddenly, is formed all at once, and is attended by great restlessness, suffering, and distress. In *phrenitis*, the disease is usually formed somewhat more gradually; the patient has been subject to pain of the head perhaps for some days or even longer; he complains less; or at least there is less urgent distress,—less distress of a general kind; the pain may be very severe, although it is more frequently rather obscure; the intolerance of light and sound is less urgent; the rigor, and subsequent heat, and the attack in general are less marked; the patient is not so soon *relieved* by remedies, and the tongue and alvine evacuations are less morbid. In the attack of affection of the head from intestinal irritation, the patient is *relieved* perhaps completely, if the lancet be employed, but the attack soon recurs with equal or greater violence; in phrenitis, the relief is seldom so complete, the interval of ease so long, or the return so marked,—the pain is *diminished*, perhaps, but gradually resumes its former violence, unless active measures be interposed.

When the *chest* is affected from intestinal irritation, the pain is severe and acute, and increased by a full inspiration, —if the inspiration be repeated, however, a second and a third time the increase of the pain is less and less; the situation of the pain varies; there is no cough,—and no crepitus on making a full expiration. In all these respects the case differs from inflammation. The remarks already made respecting the relief from remedies, the tendency to a sudden recurrence of the pain, &c. in cases of affection of the head, apply equally here.

I had long remarked that there might be both acute pain and tenderness under pressure, of the abdomen, without inflammation; this state of things is frequently the result of intestinal irritation. It is distinguished from inflammation by the *general* symptoms of this affection,—the mode of attack,—the effects of remedies. In inflammation, the surface is usually cool, the head unaffected, the patient remarkably quiet; in the case of intestinal irritation, or the contrary. there is generally much heat after rigor, the head is much affected, and the patient is restless and generally distressed, the tongue is loaded and perhaps swollen, the alvine evacuations are extremely morbid, and great relief is obtained by the free operation of medicine." We shall pass over the history of the disease, as given by Mr. H. owing to its being a mere summary of the foregoing symptoms, and proceed to the *treatment*. "The mode of treatment comprises the full

evacuation of the bowels,—soothing by anodynes,—light nourishment,—and certain local remedies.

Before I make a few observations on each of these measures, I wish, however, shortly to discuss the question, ought we ever to have recourse to the lancet? If our diagnosis was early and certain, *perhaps* the lancet would never be required. But there are two reasons why it appears to me that, whilst we must use this remedy with every precaution, it should not be entirely discarded, even in cases of intestinal irritation. First, that which was originally irritation merely, may doubtless lead to a state of inflammation; the presence of much disordered fæces in the bowels, may not only irritate, and induce pain of that,—and of some remoter part, but may eventually induce inflammation, if long continued; and the lancet may be requisite as a *preventive*, if not as a cure. This observation applies especially to the attack of pain and tenderness in the abdomen;—much less so, I think, to the affection of the head. Secondly, in the case of intestinal irritation the diagnosis may not, until the symptoms of the affection be still further studied, be such as to remove all doubt as to the nature of the case. It will then be prudent to bleed for the sake of safety, whilst we enforce the other and more specific modes of treatment.

The bowels must be fully and freely evacuated. This alone, however, will not remove the symptoms of this distressing disorder, which appear to continue, after the original cause is removed, partly from the irritation occasioned by the purgative medicine and from the state of purging themselves, and partly from the degree of lowness and exhaustion induced. To remove these effects of the administration of purgative medicine, the draught of tinctura opii and spiritus ammoniæ aromaticus, on one hand, and light and fluid nourishment, on the other, seem to be absolutely necessary. This remark is highly important, for I have frequently known the practitioner disappointed who depended upon any *one* of the remedies mentioned. It is by the judicious combination of all, that we must hope to subdue the present symptoms, and, what is of equal moment, to prevent their recurrence.

The local applications are chiefly a cold lotion applied to the *head*,—a liniment applied to the *chest*,—and a fomentation and liniment applied to the *abdomen*, when the pain occupies one or other of these parts."

The second essay on some effects of loss of blood, is reprinted from the transactions of the Medico Chirurgical society, and has already been reviewed, in the 33d No. of the

Recorder, p. 158, along with those transactions; we therefore proceed to the third and last essay on exhaustion and sinking from various causes. This subject is considered in relation, 1st, to early infancy, 2d, to old age, 3d, to several diseases, 4th, to certain causes of exhaustion. "The state of exhaustion, is very apt to be induced in early infancy, and as the reaction is feeble at this period of life, the case soon assumes the character of sinking." "This state of things, is often mistaken for inflammation of the brain or hydrocephalus.

"And it may be difficult to state the grounds for a just diagnosis between the two affections." The state of exhaustion is thus delineated by the author, "At first there are great restlessness, and irritability of temper, whilst the countenance is pale and expressive of great anxiety, and there is great frequency of the pulse; afterwards the temper and restlessness appear subdued, there are some dozing and other false and deceptive appearances of amendment, but the pulse is still more frequent, the face pale and sunk, and the cheeks and extremities are cold; the voice is apt to be husky and attended with a husky, hacking and distressing cough."

"Case 1. One little patient was reduced by too copious and repeated bleeding for croup. There supervened a state of irritability of temper, so that, when greatly exhausted, it made great efforts to bite, scratch, and beat its attendant. This state of agitation continued until the powers of life were gradually exhausted.

Case 2. A little girl aged four months was seized with a bowel complaint; the usual medical attendant prescribed an aperient which acted too freely. When I saw it on the second or third day of the disorder, the countenance was pale and sunk, and the cheeks cool; it started on being touched; there was a peculiar *huskiness* of the voice, and the pulse beat from 144 to 150. By giving brandy the pulse was, on the succeeding day, reduced to 120, and there was some apparent amendment although a degree of ruttling in the breathing or on coughing was now added to the huskiness of the voice.—By continuing the brandy the cheeks became warm and at length somewhat flushed, and the pulse rose to 140.—The quantity of brandy was now diminished and cautiously regulated, and the pulse very gradually lowered to the natural standard." The author is persuaded "that, by relinquishing all lowering remedies and adopting a cordial and soothing plan of treatment, he has seen some children recover who would soon have sunk under the continuance of remedies calculated to subdue a supposed state of inflammation within the

head, chest, or abdomen. In these cases the idea that the original disease and the remedies had worn out the little patient and led to a state of exhaustion had apparently never occurred to the practitioner."

"The state of sinking is apt to come on in *old age* as it does in infancy, unattended and unpreceded by the symptoms of reaction," this state is thus described from Sir Henry Halford. "It sometimes comes on so gradually and insensibly, that the patient is hardly aware of its commencement. He perceives that he is sooner tired than usual, and that he is thinner than he was; but yet he has nothing material to complain of. In process of time his appetite becomes seriously impaired; his nights are sleepless, or if he get sleep, he is not refreshed by it. His face becomes visibly extenuated, or perhaps acquires a bloated look. His tongue is white, and he suspects that he has fever.

"If he ask advice, his pulse is found quicker than it should be, and he acknowledges that he has felt pains occasionally in his head and chest; and that his legs are disposed to swell; yet there is no deficiency in the quantity of his urine, nor any other sensible failure in the action of the abdominal viscera, excepting that the bowels are more sluggish than they used to be.

"Sometimes the headach is accompanied with vertigo; and sometimes with severe rheumatic pains, as the patient believes them to be, are felt in various parts of the body, and in the limbs; but, on inquiry, these have not the ordinary seat, nor the common accompaniments of rheumatism, and seem rather to take the course of nerves than of the muscular fibres.

"In the latter stages of this disease, the stomach seems to lose all its powers; the frame becomes more and more emaciated; the cellular membrane, in the lower limbs, is laden with fluid; there is an insurmountable restlessness by day, and a total want of sleep at night; the mind grows torpid and indifferent to what formerly interested it; and the patient sinks at last, seeming rather to cease to live, than to die of a mortal distemper."

The countenance "betrays a peculiar imbecility both of the muscles and perhaps of the mind or feelings, by certain peculiar rapid movements observed in the chin and cheeks," "the feelings are in some instances very susceptible and the patient is apt even to shed tears, and is unable perhaps to bear society;" "besides the headach and vertigo, there is sometimes a degree of fluttering in the region of the heart or stomach, and the pulse is apt to be irregular; the breathing

is easily hurried by exertion or emotion; the patient is soon fatigued; there are wakefulness and restlessness with thirst and heat; the ends of the fingers are apt to become of a pale livid hue and cold; the muscular flesh wastes, and the patient is observed to be much" "altered."

"In this state of exhaustion I have several times known an attack very similar to *paralysis* to take place. In one patient the head fell down upon the chest, the muscles of the back of the neck becoming all at once affected with such debility as to be incapable of supporting it. From this debility the patient recovered gradually and was once more able to hold his head erect.—Another patient suddenly lost, in a great degree, the power of articulation and of deglutition. He recovered this power in a great measure, but soon passed into a fatal sinking state.

Such is the state of things before that of positive sinking begins, and from such a state the patient may recover; but in a short time, if recovery be delayed, that other change takes place and appears to lead irretrievably to dissolution.

With increased debility of the muscles and of the pulse, there is now slight delirium with a tendency to dozing; there is ruttling in the throat and in the bronchia, with laborious and imperfect breathing; in some instances there is retention, with or without incontinence, of urine; the cheeks, hands, and feet become pale, livid, and cold, and the eye is covered with a film of mucus;—after some unusual effort, or, perhaps, just after the bowels have been moved, the patient frequently expires rather suddenly;—otherwise there is the most gradual sinking of the powers of life, perhaps after several unexpected changes for better and worse."

"Case.—The Rev. ——, aged 78, after having declined in the most gradual manner, became affected with cold and cough; in a few days it was apparent that he was passing into the sinking state—the countenance became more emaciated and fallen, the cheeks cool, alternating with slight flushings, especially on giving any stimulus, the tongue became dry, there were wakefulness and restlessness, and afterwards dozing and snoring, some tendency to choking on swallowing, and great ruttling in the breathing; the pulse was frequent, the skin at first rather hot, the extremities afterwards losing their warmth. There were frequent unexpected changes for better and worse, and at last the fatal change took place rather suddenly after a too free evacuation of the bowels.

"Sir Henry Halford makes the following just remarks on

the most usual causes of this state.—"Of the various immediate causes to which this malady may owe its commencement, there is none more frequent than a common cold. When the body is predisposed to this change, any occasion of feverish excitement, and a privation of rest at the same time, will readily induce it. I have known an act of intemperance, where intemperance was not habitual, the first apparent cause of it. A fall, which did not appear of consequence at the moment, and which would not have been so at any other time, has sometimes jarred the frame into this disordered action. A marriage contracted late in life has also afforded the first occasion to this change; but above all, anxiety of mind and sorrow have laid the surest foundation for the malady in its least remediable form."

We come now to the consideration "of *sinking in certain diseases.*" Our author after quoting largely from the chapter on Dissolution* by Mr. Hunter, and from Sir Henry Halford's paper, to which we must refer,† observes, that "the diseases in which the state of sinking is most marked are, I think, typhus fever and enteritis,—dysentery,—or cholera,—though many other diseases lead to this state, and especially some which consist in repeated attacks, each attack leaving the patient weaker than before, until they issue in sinking of the vital powers.

"Amongst the first symptoms, coldness and lividity of the hands are frequently observed, the livid colour disappearing imperfectly on pressure; the cheeks and nose are at the same time usually cool. There are often much general and indefinable suffering, distress, and restlessness; sometimes slight dozing, at others, slight delirium, and in some cases convulsion followed by coma; the breathing is sometimes imperfect, at others little affected, and I have in some cases observed the crepitus in breathing, of which I have spoken in the preceding essay, for some days even before there was any other decided symptom of sinking; the voice is frequently altered and rather husky; the pulse is small and frequent, and perhaps irregular; the motions are apt to be passed involuntarily, and sometimes there is retention of urine;—it is usual for some distressing symptom, as delirium in phrenitis, cough in affections of the chest, and pains in those of the abdomen, to have ceased as the state of sinking has come on.

"The state of sinking has not, I am persuaded, been distinguished from those forms of disease which have lately been

* Hunter on Inflammation, pp. 504 to 508.

† Trans. of the Col. of Phys. vol. vi. pp. 400. 405. 408.

more particularly attended to and denominated *congestive;* yet the diagnosis is of the utmost moment; for under the idea of congestion, the lancet has sometimes been used when stimuli were required to obviate a state of exhaustion or sinking.

"In typhus sinking is very apt to occur in the later stages. In some diseases of the bowels, this state sometimes occurs even early in the disease; in some such cases it has been usual to conclude that gangrene had taken place, but on examination no such appearance has been observed; the sinking state is equally with gangrene attended by a subsidence of the abdominal pains.*—In one case of *suppression* of urine the secretion was somewhat restored in the last stage, or sinking state.

"In the more chronic cases leading to sinking there are various slight efforts of reaction,—as flushes, and heat of skin; sometimes there is shivering followed by heat; slight dozing, or delirium, crepitus or labour in breathing, catching or mucous cough, cold extremities, the eye being bedimmed by a film of mucus.

"Case.—Woodborough, aged 20, was taken, after having been engaged in churning in a damp kitchen, with all the symptoms of *enteritis;* the bowels were obstructed and affected with great pain and tenderness; the pulse was 120 and rather small; the hands were kept out of bed, and their surface was livid, cold, and damp, the livid colour disappearing very imperfectly on pressure. In spite of every remedy, to subdue the disease and to support the warmth of the body,—especially the freest blood-letting and eventually the spiritus terebinthinæ, the state of coldness and sinking continued and increased, and the patient died within fifty hours of the first attack.—An examination was refused."

"Sinking is sometimes induced by a too active depletory mode of treatment; at other times it is the peculiar tendency or effect of the disease."

As the section on certain causes of exhaustion is a short one, we shall give it entire in the author's own words. "The causes of exhaustion to which I intend to allude slightly, in this place, are chiefly—too protracted *lactation,*—and profuse *leucorrhœa.* These two causes of exhaustion produce nearly similar effects,—and the former frequently induces the latter. It will only be necessary, therefore to give the usual symptoms of exhaustion in the case of protracted lactation.

"The countenance becomes pale and thin, and there is a

* See further the "Essay on Symptoms," p. 77.

general loss of flesh and strength, with great susceptibility to the effects of bodily exertion or mental emotion; there are headach, and frequently a sense of beating,—or of pressure; there are usually fluttering and palpitation of the heart, alternating with faintishness; breathlessness and cough, and feebleness or hoarseness of the voice; and the stomach and bowels become greatly disordered—flatulent and constipated, and incapable of performing the functions of digestion. The cough is sometimes attended with expectoration and such emaciation as to lead to the apprehension of a particular kind of *consumption* of which I purpose to publish an account hereafter.—Every thing denotes a diminished energy of the vital powers." We now take leave of Mr. Hall with feelings of gratitude, for having furnished us with several hints and observations that are in our opinion highly interesting, and for having enlightened us upon some points of practical importance.

We gave, in our last number, page 109, six entire papers from the Transactions of the Medico-Chirurgical Society of Edinburg, Vol. II., 1826. We now give an analytical review of the remaining part of this highly interesting volume, in which we have been careful to select all the important practical matter it contains.

Art. VI.—*Transactions of the Medico-Chirurgical Society of Edinburg.* Vol. II., 1826.

We proceed, in the first place, to notice some very interesting observations, by William Hamilton, Esq., on the nature, causes, and treatment of beriberi, a singular disease, incident to the island of Ceylon, to the Malabar coast, and to that tract of country reaching from Madras as far north as Ganjam. In no part does it extend inland more than forty miles; forming what is called the northern division of the Madras settlement. "It is most prevalent during the decline of one monsoon and setting in of another, when the atmosphere is completely loaded with cold, raw, damp vapours, and the vicissitudes of temperature are greater than at any other period of the year, and the instances are comparatively rare where it has been found to occur at a distance from the sea exceeding sixty or seventy miles." Persons of different constitutions are liable to be affected, but those who lead a sedentary and debauched life and are much exposed to the vicissitudes of the weather, are most subject to its attacks;

and an increased liability to a recurrence is the result of once having had the disease. The old and infirm are more liable than the young and active, and men more than women and children.

This disease appears to have been treated of by several authors, who have visited those regions where it occurs. Drs. Christie and Rogers, as well as Mr. Ridley and Mr. Marshall, are referred to during the course of Mr. H's observations, the last of whom appears to coincide with him in pathological and remedial views. He indicates two forms, the first characterized by the symptoms being at first mild and gradually increasing in severity; the second in which the symptoms are from the first urgent, increase rapidly, and unless relief be speedily afforded, finally prove fatal. The first case of this disease that occurred to him was of the mild form, but proved fatal, as did also the second case, which was of the aggravated form; the symptoms were "great debility, with difficulty of respiration, a sense of weight and oppression at the lower end of the sternum, and an almost paralytic state of the thighs and legs; which soon after the commencement of the attack became œdematous, as did also the face and indeed the greater part of the body, with a general sense of coldness over the surface; pulse 120, small, feeble, and intermitting. All these symptoms went on increasing until the death of the patient, which took place within forty-eight hours from the time that I first visited him. A short time previous to his death, he was seized with a violent fit of vomiting, spasms of the abdominal muscles, and increased dyspnœa, which carried him off." Having failed twice in the employment of the plan used by his predecessors, he was determined to examine the body of the last, the result of which was that he was induced to alter his mode of treatment, and succeeded in curing the next three cases that came under his notice, though two of them were of a more alarming nature in the beginning than either of those above mentioned. He found, upon dissection, in the head upwards of an ounce of serum effused between the pia mater and tunica arachnoidea, in several places there were dark red coloured patches, one of which was very vascular, and extended from a quarter to half an inch into the substance of the brain; effusion into all the ventricles except the fourth; the base of the cranium, after removing the brain, contained upwards of four ounces of a bloody serum. The lungs were very much loaded with dark coloured blood, and extensive effusion into the cavities of the pleuræ; heart healthy; pericardium both

externally and internally presented evident marks of inflammation; diaphragm towards the right side appeared considerably inflamed, stomach healthy and containing six ounces of a dark brown liquid; liver larger than natural, and very much loaded with blood, so that on cutting into its substance this fluid trickled out from different points in a continued stream, intestines presented a sort of efflorescence in some places, but upon the whole nothing remarkable. In the spinal marrow evident marks of congestion existed, the cavity of the abdomen contained from three to four pounds of fluid, and in the cellular texture over the greater part of the body, extensive effusion had taken place. From a review of these post mortem appearances, he infers that this disease arises "in a great measure from obstructed circulation in consequence of congestion in the internal parts, more particularly the liver and lungs." He does not think it is a disease of debility, as is supposed by Mr. Colquhoun, Mr. Hunter, Dr. Christie, and others; "but a disease in the treatment of which venesection may be used with the greatest prospect of advantage. He proceeds to account for the prevalence of this disease during the changes of the monsoons, by the damp loaded state of the atmosphere, and the extreme vicissitudes of temperature which suddenly check perspiration, and thereby occasion congestions of the internal organs; as there is a much greater proportion of moisture diffused in the atmosphere in the neighbourhood of the sea, this may account for the rare occurrence of the beriberi beyond sixty or seventy miles from the coast.

The numbness, spasms, and loss of power in the limbs is to be attributed to the congestion of blood in the internal parts, "more particularly in the brain and along the spinal cord."

From the appearances on dissection, Mr. H. was induced to resort to venesection in the first cases that he subsequently encountered, to the amount of thirty ozs. from a large orifice; the blood was buffy and relief was immediate, the bleeding was repeated again once or twice; he then had recourse to mercury, "soon after the second bleeding he directed twenty grs. of calomel with thirty drops of laudanum;" the patient was fumigated with the hydrargyri oxydum cinerium for the space of half an hour. An hour and ten minutes having elapsed from the time of administering the first dose of calomel, it was repeated, after which sound sleep—copious perspiration with evident abatement of all the symptoms—calomel again repeated, with six grs. of gamboge—body again

fumigated—"which together with the scruple doses of calomel and friction over the surface of the thighs with the ung. hydrar. fort. and liq. ammoniæ, was repeated every three to four hours, until ptyalism was fully established." This, notwithstanding the active means employed, did not occur for more than forty hours, every unfavourable symptom then disappeared; his principal complaint being the soreness of his mouth. Several cases are subjoined which were treated in a similar manner with success. The foregoing abstract will, however, serve to show the nature and most successful mode of treatment of this singular and truly formidable disease. We cannot take leave of the subject without calling the attention of the reader to the repeated large doses of calomel which were employed by Mr. H., he incidentally mentions a violent case of cholera, in which as a last resource he "gave calomel in no less quantities than drachm doses, with equal doses of laudanum; these were repeated three times in the course of half an hour, and with complete success; the greater part of the last dose *only* remaining on the stomach producing sound sleep with copious perspiration from which the patient awoke nearly convalescent."

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Andrew Berry M. D., communicates a description of two children united together by the sternum in the manner of the letter V, they have only one navel, they were perfect in every other respect. If medicine be given to one it affects both; one of these children was nourished for some months after birth by what it received from the stomach or other part of the alimentary canal of her sister; one will sometimes be awake when the other sleeps, but they generally sleep at the same time. At the time the description and drawing were taken, they were living in the village of Arasoer in Bhavany. They died at the age of seven, the dissolution of one occasioning that of the other.

Mr. B. also mentions a "Salinga young man who carried in a cloth wrapped round him, the under half of a boy attached from the navel;" pelvis and lower extremities of this excrescence perfect, and but little increased in size since birth, the attachment loose skin; "when he turned this excrescence so as to show it in front, urine was passed by it at his will and that without corresponding action on himself; urine could be passed either way just as the young man pleased, but only in very small quantity from the excrescence;" it was always colder than the natural temperature of the young man's body.

Charles Hastings M. D., of Worcester gives a description and plate of a most singular monstrosity which occurred in the person of a child born in his neighbourhood; the upper and lower extremities were entirely wanting, there were no vestiges either of glenoid cavities to the scapulæ nor acetebulæ, but on the left side there is a little process in the shape of a finger, consisting of two small bones united by ligaments, it is terminated by a nail, and is capable of motion when the child cries, demonstrating it to be furnished with muscles.

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Mr. Alexander Watson's observations on chronic iritis are interesting; he defines it to be an "affection of the eye of slow progress and of long continuance, in which adhesion of the iris, contraction of the pupil, and effusion of lymph upon the capsule of the lens and inner surface of the cornea, frequently take place to such an extent as to cause complete blindness." The adhesions of the edges of the pupil to the capsule of the crystalline lens, occasion a visible convexity in the iris between this part and its outer edge. The disease is very slow and insidious, existing sometimes for years without manifesting to the patient any signs of its presence except by the gradual diminution of sight, it is sometimes complicated with hydrophthalmia, and is thought by Mr. W. to be more properly a chronic inflammation of the membrane lining the chambers of the eye, which he considers analogous to the serous membranes of other cavities, than iritis, though it is more obvious on the iris. Nothing satisfactory is offered respecting the treatment, mercury fails to effect a cure and the ordinary means of combating inflammations, are frequently ineffectual, and blindness results.

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We have already given a brief abstract of Dr. Ralph's interesting paper on the yellow fever, in Barbadoes in 1816-17, in our last number whilst reviewing a paper by Dr. Merill on the same subject, to which we must refer the reader.

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Dr. Williams offers to the consideration of the profession a new theory respecting the arterialization of the blood, and the generation of animal heat; he conceives the first to result from the greater affinity of oxygen than carbonic acid, for the blood, the latter of which is consequently disengaged, from the blood in which it resided in a state of combination, we cannot follow him in detail, but the impression left on our mind by the perusal is that his reasonings are by no means conclusive. The generation of animal heat is accounted for on the principle that "all the animal principles, whose constitution is known, entering into the composition of the fluid

secretions, as urea, picromel, &c. are of a nature simpler, and consist of fewer atoms, than the albumen and fibrine of the blood from which they are formed. Now, as we find the resolution of compound bodies into less complex matter, attended with the evolution of heat, in the case of fermentation and putrefaction, so it is probable, that the same phenomenon will result from analogous changes, proceeding under the influence of the vital powers." These changes may perhaps, be attended by an evolution of heat, but in what manner are we to account for the circumstance of its continuance, when these secretions are to a considerable extent suspended, as is the case in febrile diseases, without any diminution of animal heat?

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Two cases of extraction of calculi from the female bladder by dilatation of the urethra occur in succession, the first by Robert Hamilton, M. D., in which the dilatation was with difficulty effected in eighteen hours, attended with great suffering, and the calculus which weighed one oz., was not extracted without the aid of the bistory; the second by Dr. Ramsey of Dundee, where more gradual efforts were employed with complete success; the calculus weighed seven and a half drachms, more than three weeks were employed in effecting this object, the instrument used in both cases was Weiss's dilator. From a comparison of the two cases it would appear that a very gradual but decided effort, kept up for some time, is to be prefered to a rapid dilatation.

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A very interesting case of mollities ossium is communicated by John Howship, Esq., London. It occurred in the person of an unmarried female, aged thirty-five, of delicate constitution. After a visit to Paris of two months, during which time she slept in cold chambers, and put on damp linen, her catamenia ceased. When she returned, it was observed, that "she walked rather stooping, and in a rolling manner," this state of things progressed. She used as a tea, a decoction of oak bark, her catamenia became regular for a year, still she declined, appetite indifferent, gait unimproved; mercurials were employed with manifest disadvantage; caught cold, cough induced violent pain in the hip; when walking, afraid to touch the right toe against the slightest impediment as it gave so great a shock as to endanger her falling; after using the warm sea bath twice a week for two months, "surprisingly better," on her return, symptoms reappeared; a seaton inserted for an incipient curvature of the spine; pain in the right hip excrutiating, much weakened by the seton

which was kept open for five months—confined to the horizontal position. One night on being carried to bed, the right thigh gave way, and became unnaturally bent, "like an elbow;" cramps and spasms of the muscles surrounding the part, limb straightened and secured in pasteboard splints. One month after, the left thigh, which had been very painful for several days previous, appeared to break, and was set in splints; nervous and irritable in the extreme, so much so, that the gentle friction of a handkerchief over the face induced painful spasms in the limb; this also sometimes occurred when deglutition was attempted; directed dec. cinch. ℥vj., tr. cinch. com. ʒvj., mag. sulph. ʒiij. m.; to take two table spoon-fuls every six hours; left arm painful and weak; pulse ninety, weak, though fuller than before; digestion improved; urine loaded with albuminous matter which formed a sediment on cooling; power of assisting herself greater than for a long period previous, pains less; she can now converse respecting her symptoms, though before this the bare mention of her complaint brought on spasms and severe pains of the bones; appetite impaired from constipation; bark mixture continued with an increased proportion of Epsom salts relieved her; pulse soft, seventy-two; tongue clean, skin moist and relaxed, so that she was sometimes suddenly bathed in profuse perspiration; directed cinchon. ℥vij., tinct. cinch. c. ʒvj., ext. cinch. c. resina ʒss., capt. cochl. iij. ampl. bis die, to this was added acidi sulph. dil. ʒiiss., mag. sulph. ʒiij.; sulph. acid was subsequently omitted, as it aggravated the symptoms and produced pain in the stomach. On passing the finger along the integuments of the thigh while inspecting the state of the dressings, "large drops of perspiration were immediately seen to start out along the lines and there only;" this was often repeated with the same results; the secreted fluid was possessed of a strong, unpleasant, and unusual odour; in reapplying the dressings the operation of adjusting the left thigh excited uneasiness in the right and vice versa, while no distress was felt in the limb under adjustment! The arms and one leg were now fomented with warm brine daily; she frequently described a peculiar pain in each femur, "as if a string was tied tight round the middle of the bone;" this sensation became now slight and transitory, and the spasms milder; caught cold which was attended with an aggravation of all the symptoms. Thus she continued sometimes better and at others worse, until finally she sunk exhausted by irritation and debility, previous to which she voided bloody stools. The duration of the disease extended almost to six years. "One of

the most remarkable features in its history was the relief afforded by sea air and sea bathing," and Mr. H. observes, "I feel convinced that had the patient remained twelve or eighteen months at the sea side, she would have returned home perfectly cured." The appearances on dissection were remarkable. The periosteum of the left femur was apparently filled with some soft or fluid matter; on dividing it "the contents proved to be a red pulpy or fleshy matter, in some parts much resembling liver, in one place much softer, in another of a grumous consistence like blood;" the whole femur was divided longitudinally by the knife, which encountered no trace of ossific matter in the cylindrical portion; towards each end were perceived some scattered spiculæ of bone, or a thin external lamina like an egg-shell. On inspection, it appeared that the disease was the result of "a morbid action of the capillary arteries upon the medullary membrane within the bone."

A very singular circumstance respecting the periosteum was, that "in the point to which, during life, the peculiar sense of stricture had been referred, a stricture actually existed, as though a ligature was tied round that membrane!" The right femur in every particular resembled the left; the lower parts of the tibiæ were cut through with ease, but their middle parts resisted the knife; the bones of the pelvis admitted also of being cut through at pleasure, in like manner with the dorsal and lumbar vertebræ, ribs and sternum; the bones of the inferior extremities and the cranium resisted the knife; all the visceræ sound.

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A case of purpura hemorrhagica is detailed by Dr. Fairbairn, which terminated fatally, as might have been anticipated from the mode of treatment adopted by that gentleman, when viewed in connection with his account of the symptoms when he first saw the patient; "his tongue was covered with a *dark fur*," and his pulse 110, and a pretty copious discharge of *dark venous blood* from the mouth, "partly oozing from its mucous membrane and partly expectorated from the lungs," together with "a deep seated pain in the left breast, aggravated by frequent fits of coughing or a full inspiration."

Numerous petechiæ and vibices of different sizes and colours were observed on the arms, neck and trunk. For several weeks previous to the occurence of these symptoms, "he had experienced considerable depression of spirits, general lassitude, with pains in his limbs, which at night were stiff and swollen;" had also felt pains in his head and chest; "with a tick-

ling cough, irregular shiverings, followed by flushes of heat, and partial perspirations. Blood to the amount of twenty-six ounces! was drawn—no buffy coat, but was very florid—on standing coagulated slowly, crassamentum soft and tremulous —no serum, considerable oozing of blood from the mouth; urine grumous, pulse 112 sharp, skin hot, tongue furred and streaked with blood; vs. ad. 18 oz.!! blood as formerly, less oozing from the gums, &c. pulse from 115 to 120, sharp and wiery; tongue furred and dry, slight delirium, hiccup, very little discharge of blood from the mouth, petechiæ more numerous, two fluid pitchy stools, tongue *furred and dry*, again bled to twenty oz.!!! produced syncope, blood showed a buffy coat, sensible, cannot articulate distinctly, pulse small, irregular; skin covered with a cold sweat; in a commatose state; expired three days from the time he was first seen by Dr. F. which was on the 18th of November. This gentleman, after describing the appearances on dissection, makes some remarks upon it, in which he considers this case of purpura, (as he believes it to be,) to bear a striking resemblance to *active* hemorrhage, and to warrant the use of the depleting system, as recommended by Dr. Parry. Acting upon this preconceived notion of the disease and its pathology, without due regard to the symptoms taken together, he commenced and obstinately persisted in active depletory measures, notwithstanding the dry furred tongue, greatly accelerated pulse, and other symptoms of prostration. From the season of the year, the pain in the chest, state of pulse and tongue, and the petechiæ, which frequently accompany diseases of low type; and "oozing of dark venous blood," together with its rapid progress, we should be tempted to consider this a case of pneumonia typhoides, which was epidemic in this country some years since, and sporadic cases of which are to be met with almost every winter and spring. In this latter disease, the lancet was considered in many instances fatal, and stimulants were resorted to with success; and we cannot withhold our belief that this case, pathologically considered, partook more of the nature of passive than "active hæmorrhage." What would have been the effect of turpentine and other stimulants that act directly on the capilary and nervous systems, in this case, we cannot take upon us to say; but we think they were at least indicated when the pulse was 120, and hiccup, delirium, &c. occurred; we nevertheless admire the candour which prompted Dr Fairbairn to publish this unsuccessful case, and nothing but our conviction that the mode of treatment was an improper one could have called forth our animadversions.

Dr. Alison offers some observations on the physiological principle of sympathy, which we pass over to matter of a more practical nature.

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John Gairdner, M. D. narrates a case of carditis "attended with unusual symptoms." Successive attacks of violent palpitatio, together with a sensation of throbbing in his temples and headach, pulse upwards 120 per minute; these attacks were always relieved by copious bleeding and the antiphlogistic regimen; one circumstance deserving of attention is the effect produced on the circulation by change of posture. Dr. G. observes, "I have found him reclining in bed with his pulse quite natural; the next moment, after he had slided, in the gentlest manner, over the edge of his bed, so as to rest his feet on the ground, I have found it at 130; again, after he had resumed his original position, I have found it almost immediately down to 80 or 76." From this state he slowly recovered; but symptoms of phthisis manifested themselves, and ultimately carried him off in eight months after the attack of carditis. On dissection, the usual appearances after phthisis were found in the lungs. "Near the apex of the heart a dense organized lymph, closely investing a part of the parietes of both ventricles, was discovered; on attempting to separate a portion of this layer, it was found to be firmly united to the substance of the organ, dipping between its muscular fibres in the form of dense cellular tissue; heart not adherent to the pericardium; other parts healthy.

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Mr. Charles Miller presents the details of a case of hydrocephalus chronicus, which affords "some unusual symptoms and appearances on dissection."

Thomas Anderson, when eleven months old, was observed to require his head-dress to be enlarged every three or four weeks; this enlargement progressed regularly until about two years previous to the time of his death, when his head measured in circumference thirty-one inches; from this time no considerable alteration took place; but a remarkable circumstance occurred about this same period, "an occasional dropping of water from his nose, mostly to the extent of one or two drachms daily, preceded by an itching in the nostril; the fluid exceedingly clear and of greater specific gravity than common water; his general health for many years was good, and his growth (except the head) was natural; speech slow and laboured, articulation quite clear and distinct, memory correct, his mental faculties unimpaired till within a short

time of his death, which took place at the age of sixteen and a half years. On removing the scull-cap, an immense rush of water occurred; when measured, it amounted to eight pints and a half; the dura matter appeared as if torn in shreds, not during dissection, but from previous disease; "it was separated from the interior of the skull all round and as far as the incision is ordinarily made; in removing the skull-cap, the bone being to this extent denuded of its proper covering internally, except a firm attachment along the longitudinal sinus, which was thickened. Three-fourths of the water had escaped before the brain could be examined, it then appeared floating loosely in the base of the skull, preserving though faintly the appearance of convolutions, and considerably diminished in bulk, being but three-fourths its natural size. It was almost of the consistence of pulp, and defied dissection; ventricles resembled immense open pouches," with the sides much thickened; cerebellum and appendages natural and healthy. The opening through which the water had distilled into the nostril, was a foramen one inch above, to the right of the crista galli; it might admit four bristles, and communicated directly with the nasal cavity; bloody serum flowed from the spinal canal, on raising the body which was deformed from rachitis. This case shows the possibility of bone living though denuded of the dura mater, and aims a deadly thrust, as Mr. M. remarks, at the absurd doctrine of phrenology, as it proves mind to be more independent of matter than some would-be philosophers will allow. "His intellectual powers were very good, his perception quick," and "his memory was excellent."

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James Molleson, M. D. presents us with notes of some remarkable cases. The first of which is a stricture in the intestinum ilium, which gave rise to artificial anus at the umbilicus; frequent evacuations from the rectum continued from the commencement. After the bursting of the tumour at the the navel, "a fluid exactly like milk" came away in drops; she died of superinduced phthisis; tubercles were found in the lungs on dissection.

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The next case is one of physconia, &c. presenting some remarkable appearances on dissection. May 17, 1805, Samuel Sutor, ætat. between four and five years, soon after falling upon the ice and getting wet, five or six months since, complained of severe pain in the bowels, returning periodically about seven o'clock every evening; about four months ago felt heavy pain in the right hypochondrium, which con-

tinued constant since. One month after this a "uniform tense swelling of the right side of the scrotum" was perceived, not painful. About six weeks ago ascites came on and rapidly increased, scrotal tumour more tense in the evening, the abdomen then also feels fuller; bowels always unobstructed, urine sufficiently abundant, now frequently voided, depositing a mucous sediment. General health tolerable until a fortnight since, from which time it rapidly gave way; appetite diminished, emaciation increased greatly; ankles swelled; pulse quick, irregular; hectic fever; the right testicle painful to the touch, swelled firm, smooth; swelling of the scrotum is thought to have come on rather suddenly. Testicle increases greatly in size: a diarrhœa of very offensive matter terminated his existence. On plunging a trochar into the abdomen, "℔. ss. of serous fluid, mingled with curdled particles of various sizes and of a bright yellow colour, emitting a nauseous musk-like odour, was discharged." On opening the cavity the omentum, mensentery, and interstices of all the visceræ, were found loaded with masses of albuminous matter of a dingy white colour, in some parts nearly cartilaginous, in others more friable, elsewhere moderately soft, presenting the appearance of having been poured into the cavity while fluid in *over-distending quantity*.

It was so intimately blended and connected with the surface of the liver and other visceræ, that it could not be accurately separated even by dissection, especially where it was most indurated; omentum disorganized and generally soft, but towards the liver hard, presenting a dirty white appearance, "differing in its tinge from fat, and *uninflammable*."

It was thickened to the extent of full two inches at one part, and covered nearly all the convolutions of the intestines. These, together with the stomach, were enlarged, distended with flatus, and blanched; all the remaining visceræ were sound, including those in the thorax. But the gall bladder was enlarged, diseased, and adherent to the surrounding parts by the aforementioned "interstial substance;" it was gorged with much semiconcreted bile, granulated, "and of a musk-like odour," "abominably fœtid," retaining the yellow colour. On bisecting longitudinally the right testicle, it had very much the appearance of the albuminous sort of deposition in the abdomen; faintly striated; semicartilaginous except the lower part, where it became softer: the left testicle not diseased, the spermatic vessels on both sides sound. This disease could not be traced to a scrofulous taint.

The third case is one of great novelty and interest: "immense abscesses terminating in death, resulting from mercury applied in excessive quantity. J. M. a labourer in Forfarshire, applied the strongest mercurial ointment in very excessive quantity for the cure of the itch, which he soon got rid of; but about the same time was attacked with a large abscess over the left shoulder; this was laid open, and ℔iss. of pus, not the entire contents of the cavity, was evacuated; a poultice, together with bark and wine ordered; integuments over the abscess three-fourths of an inch thick, of a blue or purple colour, not presenting the aspect of gangrene; in a day or two another abscess of the same description appeared upon the breast of the size of a hen's egg. Some days after this, immense swellings or abscesses appeared about all parts of the back, particularly contiguous to the glutæi muscles on both sides, also a sinus about the size of the palm of the hand, which penetrated deep by the side of the dorsal vertebræ; suppuration very profuse; hectic exacerbations frequent, with sweatings; soon became delirious; comatose; and died utterly emaciated. "During the many days in which he could not be raised to get these suppurating sacs dressed, they were so pendulous as to appear ready to sphacelate, and "these extensive swellings would spring up almost in one night in the *suppurative state*, without the least appearance of any previous *inflammation*."

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A case in which the high operation of lithotomy was performed, and in which unusual difficulty was experienced in the extraction of the stone, by George Ballingall, M. D. The difficulty in this case arose partly from the size of the stone, (which weighed thirteen drachms one scruple, and measured in its longitudinal diameter more than two inches: in its transverse one and a half,) and partly from its being "impacted in the upper part, or fundus of the bladder." We shall not enter into the details of this case, which we think the operator dwells upon with tedious minuteness, but shall proceed to what we consider the most interesting part of his communication, the subject of which is contained in a letter from Mr. Russell to Dr. B., accompanying a sketch of a preparation which was taken from the body of a patient, who had long been afflicted with symptoms of stone in the bladder. The stone, which was about the size of a pigeon's egg, and of an elipsoidal form, was lodged in the superior fundus of the bladder, which grasped the whole of the surface completely, except a small portion about one half inch in diameter, op-

posite to a transverse axis. The bladder was most contracted at this part, beyond which, it became more expanded, and formed the principle receptacle for the urine. The stone passed through the contraction of the bladder, and then again expanded, so as to present an irregular hour-glass shape; two cornæ projected into the ureters; they were one-fourth of an inch in diameter, and more than an inch long. The stone was composed of small particles about the size of grains of sand, adhering closely together; the surface was protected by a continuous covering of the strength and thickness of an egg-shell; that portion, however, which projected into the cavity of the bladder, had no continuous covering, so that the urine was absorbed into the substance of the stone and kept it moist; near the centre of the upper fundus of the bladder there existed an aperture nearly half an inch in diameter. The stone was so firmly grasped by the bladder at this part, that the urine was prevented from escaping into the cavity of the abdomen.

It is probable that the stone at one period of its formation had been grasped by the upper fundus of the bladder, and having been retained there, gradually underwent changes which were productive of the appearances found on dissection. In confirmation of this opinion, Mr. R. relates another case, which he operated upon, where an hour-glass contraction had occured so as to retain the stone in the upper cavity, which was extracted by inserting the blades of the forceps within the stricture, and then by expanding them the obstruction was overcome, and the stone extracted.

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Several cases of poisoning with arsenic, illustrating the delicacy of chemical evidence, &c., related by Dr. Christison, are highly valuable in a medico-legal point of view, more especially when accompanied as they are, by his valuable observations. As the paper is a very long one, we are obliged to confine ourselves to that part which treats of his mode of ascertaining the presence of arsenic in the stomach. It consists in effecting a reduction of the metal, by the following method. The contents of a stomach were poured into a porcelain vessel, and boiled briskly for fifteen minutes; upon filtering the liquid a very pale straw-yellow coloured fluid was obtained, with which lime water, and the ammoniacal nitrate of silver, gave inconclusive results; the arsenic evidently existed in very small quantity, if present at all.

This fluid was acidulated with acetic acid, and subjected for fifteen minutes to a stream of sulphuretted hydrogen gas, which

gave it a deep yellow colour and muddy appearance; the excess of sulphuretted hydrogen was driven off by ebullition, and a considerable precipitate of a pale lemon colour took place, composed partly of fibrous flocculi, and partly of very minute brilliant scales.* This gave a strong presumption of the presence of arsenic. The precipitate was separated from the super natent fluid by the pipette, and distilled water poured on it: this same operation being repeated again, the precipitate thrown on a filter, compressed, and partially dried between the folds of bibulous paper, was dried further by a gentle heat, and dropped into the bottom of a tube of this shape and size.

It was now covered with a little black flux, which was dropped through a paper tube in order not to soil the glass. "The whole material just filled the ball at the end of the tube." Heat was next cautiously applied by means of a small spirit lamp.

The water first disengaged was removed by a roll of filtering paper, and on raising the heat to a full red, "a distinct crust was sublimed into the narrow part of the tube." It was smooth bluish gray, brilliant like polished steel, externally crystalline, sparkling, and iron-gray internally like the fracture of fine steel. This established the fact of the presence of arsenic in the contents of the stomach; as no known substance can yield with sulphuretted hydrogen a yellow precipitate, from which such a metallic crust can be sublimed. To establish it beyond the possibility of doubt, a very delicate test was employed by Dr. C., the portion of the tube containing the flux being removed by melting and drawing it out, the crust was driven up and down by the spirit lamp flame: at first it preserved its ordinary appearance; "at length it was converted into little detached crystals, white, tanslucent, of adamantine lustre, and evidently showing triangular facets under the microscope of four powers;" these were octahædral crystals of oxide of arsenic. By weighing the tube before and after the crystals were washed out with distilled water, they were ascertained to be one-twentieth of a grain in weight. Dr. C. has repeatedly obtained crystals with triangular facets from a metallic sublimate of one-hundreth part of a grain,

* Which last appearance does not always occur if the quantity is small; to see it, the excess of gas should be driven off by a very gradually increasing heat.

and he considers this mode as far superior to the fluid tests, which may, however, be used in subordination to it; it is sometimes necessary to analyze the stomach also by cutting it into small fragments, and boiling it briskly for half an hour in a pint of water, then removing the larger pieces, and filter the liquid, which must pass through the foregoing manipulations. If the fluid containing the arsenic be ropy, and viscus, even after being boiled and acidulated, treat the precipitate with nitric acid, disolve and filter, neutralize with ammonia, and throw down the sulphuric and arsenic acids with nitrate of lead; then reduce the precipitate in the usual way.

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A case of disorganization of the stomach of an infant is narrated by Dr. John Gairdner. The subject, a boy, was weaned* at eleven months old, (the first of July, 1804,) on the fifth day after which he was attacked with diarrhœa; stools at first copious, green, and slimy; on the third day of the malady, vomiting occurred with great thirst, which continued until Dr. G. saw him; at this time great emaciation of the limbs, countenance anxious, pulse one hundred and twenty, skin hotter than natural, often drowsy, diarrhœa had abated, fœces were natural in colour. The gums were lanced, and ordered only half a wine-glassful of arrow-root every six hours. Next day vomiting gone and other symptoms abated, feet cold, much disposed to sleep; regimen continued, and warm bath if the heat returned. Next day much better; strongly enjoined that his ingesta should not be increased at present; apparently well; on the following morning had three dark, fœtid, copious, and rather solid stools; from this a diarrhœa continued, which ultimately terminated his existence; he had six stools a day at first, then ten, and subsequently fewer in number, undergoing several changes: only vomited once, but all the other symptoms noted existed in an extreme degree of intensity; some attempts were made to restrain the bowel complaint by opiate injections and cretacious mixture, strong beef tea with the enemata, warm bath, &c., but with only temporary abatement of the symptoms.

Dissection—Fifty hours after death, presented the following appearances: intestines thin, uncommonly translucent, inflated with air; a small quantity of fecal matter observed at two points in the course of the jejunum and ileum, which had communicated its deep yellow tinge to the intestine by transudation; mesenteric glands sound, as were all the vis-

* The number of cases on record, that occurred about this period, are to those that occur before and after, as two to one, according to Dr. G.'s tables, contained in a former paper.

ceræ of the abdomen and thorax, with the exception of the stomach; at its splenic extremity, although apparently entire, it had at one part a semitransparency and bluishness, which arose from disorganization of its texture, proceeding from within outwards. On the inside all its coats were perforated except the peritoneal, which was very much attenuated at that part, so that the external layer alone remained. The stomach contained only a small quantity of an opaque thickish fluid. Dr. G. thinks there is strong reason to believe that this species of atrophy is produced by the change of food at weaning, and therefore indicates the propriety of attending to the following circumstances when determining on taking the child from the breast: 1st. The condition of the patient; it should be in perfect health: If it is liable to diarrhœa, or that disease is present, it should not be weaned. 2d. The season of the year, as it is most liable to occur in hot weather. 3d. The sex of the patient, as boys are more prone to the disease than girls; in eighteen cases where the sex is noted, fourteen were boys and four girls.

Dr. G. thinks the disorganization of the stomach occurs after death by the action of the contained fluids.

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We proceed next to notice a paper on the use of a new substance called *silk-worm gut*, for securing divided arteries, by George Fielding, Esq., surgeon of Hull.

After alluding to the diversity of opinion among surgeons respecting the best mode of securing divided arteries, and also the materials proper for that purpose, and pointing out some of the methods recommended by other authors, together with their imperfections, he proceeds thus: "It will, I think, be allowed by practitioners most conversant with surgery, that the substances generally used for securing bleeding vessels, such as fine silk, thread, &c., are followed by inconveniences which no mode of management on the part of the surgeon can obviate.

"These substances are little liable to decomposition, are insoluble in the fluids of the body, and are not acted upon by the absorbents; hence, though used in the very best manner, they always act as foreign bodies, and require to be expelled by the suppurative process. I presume, therefore, that any attempt to obviate or remove these inconveniences, is deserving the attention of the practical surgeon." He proceeds thus: "In the year 1823, while making experiments upon some animal substances which were likely to be absorbed or dissolved in the animal fluids, and yet to possess sufficient tenacity to

remain long enough upon a divided artery to secure the union of its coats, my assistant, Mr. E. Heseltien, suggested to me to try the substance known by the name of silk-worm gut. It is, I understand, much used by fishermen at the end of their lines, is apparently an *animal* substance, will sustain a weight of many pounds without breaking, and softens by being steeped in warm water for half an hour, so as to be easily formed in a knob." He has also used it without previous steeping, and found no difficulty in securing the bleeding vessel. Having cut out portions of a vein from a subject, and tied knots of the gut upon them, he immersed them in a bottle containing fresh serum, which was kept at a moderate heat two or three days to ascertain whether the substance retained its tenacity long enough to insure the union of the coats of the vessel, and being satisfied with the result, he next proceeded to employ this substance for securing arteries in the human subject, of the successful application of which he relates twelve cases in the concluding part of his paper.

The use of animal substances for the purpose of tying arteries, is not new. We believe this mode was first suggested by Young, in his "Medical Literature," and it has been employed here at the suggestion of Dr. Physick, as long ago as the years 1816-18, for which see Dorsey's Surgery, second edition, and also the Essay on Traumatic Hemorrhage, by Dr. Jameson, in the last number of this Journal, page 49, et seq. Sir Astley Cooper is also entitled to some credit on this head; we have not, however, leisure to define the respective claims of each; it is sufficient to show that Mr. Fielding is only entitled to the merit of introducing one more animal substance fit for this purpose, to the notice of the profession.

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Observations on cutaneous absorption, with experiments, by John Dill, M. D., are interesting, they tend to support the doctrine that the skin is capable of absorbing moisture from the circumambient atmosphere, the experiments consist in weighing persons before and after their entrance into a bath of a given temperature, the hourly expenditure of the body being previously ascertained and allowed for.

In all of his experiments there was an increase of weight, after remaining in the bath about half an hour, which could only be accounted for on the supposition of water having been absorbed; the experiments were diversified, and the body experimented on in different states; but all resulted in the same conclusions.

Dr. Thomas Anderson, of Trinidad, relates several successful cases of tetanus, where the tobacco in the form of a bath, frequently repeated, and also in that of injection was employed; we give one of the cases in a condensed form. The subject, a negro boy named Luke, was twelve years old, had unequivocal opisthotonic spasms recurring every three minutes; the disease arose from a puncture of the thumb; advised the use of the tobacco baths, made as strongly impregnated with the indigenous plant as possible, to be retained therein till nausea and even vomiting should be induced, and general relaxation of the surface, "the baths to be repeated several times in the course of the day;" one oz. of castor oil ordered next day, spasms more severe and all the symptoms more urgent; repeat the castor oil, and the baths every four hours, together with "an enema composed by infusing one drachm of Virginia tobacco leaves in a pint of boiling water for fifteen minutes, to be administered after each immersion in the bath, half an hour after removal from it; sensible effects produced by the enemata and baths, spasms controlled for a time by their operation, soon return, no satisfactory alvine evacuation—took calomel and gamboge, had four unnatural stools." This mode of treatment, that is, the baths and enema of tobacco, with cathartics, in seventeen days effected a complete cure. It was difficult to produce collapse by tobacco on the tetanic subject. The formula for making a bath is four pounds of the dried plant to be boiled in eight gallons of water one hour, and this used to impregnate the tepid water of a bath; one case out of six treated in this way proved unsuccessful.

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Dr. A. H. Renton's account of the dysentery of Madeira, contains nothing particularly striking; he relies principally on mercurial salivation early produced after venesection has been premised. The latter he thinks is often fatally persisted in; he relates a case which we shall give in his own words. "A few years ago I was sent to see a poor woman on the Levada de Santa Luzia, the day after her delivery, and who had been labouring under the disease for some time before it. In addition to the other symptoms, there were frequent vomiting, hiccup and delirium; and she seemed rapidly sinking. I considered the case a lost one; but, to relieve her sufferings, requested the person who took an interest in her, to give her some opium pills; to each of which (and I can hardly say with what intention, excepting that of sending the luckless creature out of the world *secundum artem)* a grain of calomel was added. After taking the *third grain,* salivation

came on, and she recovered." The motive he assigns for giving the medicine in this case is, we think, a singular one for a conscientious physician to acknowledge.

A case of gunshot wound, by J. Boggie, M. D., is interesting in a physiological point of view; the wound was received at the battle of Waterloo, from a rifle-ball, which shattered the bones of the leg, "a very great proportion of the whole cylinder of the tibia to the extent of several inches" was removed in fragments through an incision made for that purpose, "yet in the course of little more than four months we find that that great loss was completely repaired by the secretion of callus," and the person recovered, with a slight shortening of the limb.

ART. VII.—*Practical Observations on the Convulsions of Infants.* By JOHN NORTH, Surgeon Accoucheur, Member of the Royal College of Surgeons. London, 1826.

THE work, the title of which is prefixed to this article, is offered to the medical public, as the result of experience and observation. From the importance of the subject on which it professes to treat, and the highly respectable source from whence it emanates, we are induced to believe its analysis will be acceptable to our readers.

Chap. I.—*On the frequency, the causes, &c. of Infantile Convulsions.*—That there exists in children a peculiar susceptibility to convulsions every one must admit, since by "a report of Dr. Clarke, made in the year 1792, out of 17,650 children, born in the Lying-in Hospital of Dublin, a sixth part died during the first year of their existence, and that nineteen out of twenty fell victims to convulsions. Dr Lange has recorded, that at Copenhagen, during a period of thirteen years, no less than 12,769 children perished from epilepsy." In infancy the slightest impressions are productive of very powerful and sudden effects in consequence of the large development of the brain and nervous system. The nerves resemble medullary pulps; the muscles are pale, soft and fragile; their contractions are quick, frequent and feeble; and the body being covered by a very fine thin cuticle, possesses a high degree of sensibility. In tropical climates, as the sensibility to mental and corporeal impressions is augmented, we find a corresponding prevalence of convulsive diseases.

Numerous instances might be adduced to show that a predisposition to convulsive affections may be transmitted from parent to offspring. Many writers consider it as an established axiom, that children born with large heads, or whose heads increase in size disproportionately to their bodies, will have convulsions. Our author has met with convulsions frequently in children with small heads; but surely, the inference is by no means conclusive, that convulsions may not also occur in the former. He also adverts to a fact which, if established by general observation, may lead to much curious research, and become very important in prosecuting the study of our species. He states that "the children of parents who marry at too early, or too advanced an age, are more susceptible of convulsions, than the progeny of those persons who marry in the prime of life."

Mr. North proceeds to define the term convulsion: "when," he says, p. 15, "there is either an alternate and involuntary contraction and relaxation of the muscles, or a permanent contraction of the muscles, convulsion exists. The contraction may be so trifling as scarcely to attract attention; or it may be exerted in the highest possible degree which the muscular structure is capable of supporting without rupture of its fibres. When the muscular contraction is permanent, it is then termed a *tonic convulsion.* In this species, the involuntary contraction of the muscles renders them motionless, and incapable of renewing their motion until the entire cessation of the convulsion. When there is an alternate contraction and relaxation, a rapid succession of irregular action and rest in the muscles affected, the term *clonic convulsions* is employed."

In describing the disease, Mr. North remarks, that its usual seat is the eyes, features of the face, superior and inferior extremities, and the respiratory muscles; at p. 19 he continues in positive language, that "neither fever nor *disturbance of the intellectual functions,* forms a part of the symptoms of a paroxysm of simple convulsions. A child may not be able to hear during the paroxysm; but this is not a proof that its faculties are destroyed." We conceive that our author had not evidence sufficient to warrant him in drawing this conclusion, since it is so difficult to ascertain at an early age, whether or no a child enjoys in perfection, the exercise of its intellect. And further, we are inclined to think that in every case of convulsion, the *disturbance* of the sentient and intellectual functions corresponds in degree with the intensity of the paroxysm. This is frequently attended with a total suspension during the attack, and if the disease con-

tinues its course, may ultimately induce a state of permanent idiocy.

After confessing much difficulty in establishing clear distinctions between the various species of nervous affections, Mr. N. goes on to state, that "there is a strict analogy between epilepsy and simple convulsions: the muscular system is, in each disorder, affected in a very similar manner." But he makes this obvious exception, that in the former the senses and intellect are for a time destroyed. In illustration of the periodical return of many nervous diseases, our author relates two cases, and after some general observations on the violence of convulsive action, quotes Dr. Clarke for a description of the phenomena that occur in a common case of convulsions; and, after a slight notice of subsultus and palpitation, he proceeds to consider the *proximate cause or nature of convulsions*, of which he thinks we shall probably ever remain in doubt. Mr. N. questions the propriety of the usual division into idiopathic and symptomatic, and maintains that a very great majority of cases are purely symptomatic, and thinks it probable they are never idiopathic. His arguments in support of this position, appear to be the result of sound reasoning and legitimate induction. On education, as a fruitful source of convulsions, we transcribe the following just remarks, p. 32: "It is undoubtedly too much the custom of the modern system of education to stimulate the infant intellect to premature, and therefore prejudicial exertion. The recommendations enforced by Struve, should never be forgotten; and if they are forgotten by parents, it is the imperative duty of the medical practitioner to point out the necessity of complying with them. We should operate upon the tender intellect of a child by the gentlest progression. It must surely be much more judicious to complete the instrument previous to its use, than to employ it in an imperfect state. It is the same with children as adults. In the cultivation of the mental powers, we are always to bear in mind the capability of the individual to answer the demands which are made upon him for exertion. It is not only irrational, but it is frequently destructive, to impose either upon the mind or body, but particularly upon the former, a load which it is incapable of supporting. It may be a source of consolation to those parents who are too apt to lament any apparent loss of time in the very early periods of life, to remember that early acquirements are not to be gained without destruction of health, and that the future progress and powers of the individual depend upon the foundation

which is laid in infancy, by judiciously adapting the studies of the child to its age and constitution." By premature efforts at mental improvement the organ is exhausted, and the injurious effects thus created by a false ambition in parents, present themselves in a train of nervous symptoms, which often pave the way to decided paroxysms of convulsions.

We should constantly bear in mind that our means of affording relief when convulsions have actually occurred, are limited and uncertain, and therefore our grand object must be to prevent their formation, by paying assiduous attention to the slightest disturbance of health, and by a judicious and timely recurrence to appropriate remedies.

In accordance with the views of our author, we think the brain is directly or indirectly irritated in most cases of convulsions; yet this irritation may last but for a moment, and be so trifling as to produce no serious derangement of the cerebral functions, much less any organic alteration; still, he adds, it may be kept up by a repetition of the exciting cause, and produce irremediable mischief. At the same time our author cannot admit irritation of the brain to be the proximate cause of all convulsive affections; for, in some cases of local injury, they must arise independent of the mediation of the brain: since, also, if a nerve which is separated from the nervous centre is irritated, convulsions take place in the muscles to which it is distributed. Neither can he conceive how the convulsive affections which arise in plethoric habits where we are called upon to abstract blood, and those which occur from the accidental loss of blood, can alike arise from cerebral irritation.

We can readily assent to the following proposition, which manifestly leads to a sound and judicious practice, p. 47: "the effects of any given irritation will depend upon the particular constitution and temperament of the individual. In one, local pain unconnected with general disturbance may ensue; in a second, an attack of fever may arise; and in a third, convulsions with or without pain or febrile movement." But although convulsions may arise from some serious cerebral disease, our author adds, "we should not hastily determine that the brain is organically or even functionally affected, because a paroxysm of convulsions occurs; or prognosticate the speedy effusion of water in the ventricles, unless enormous doses of calomel are prescribed, and repeated bleedings are had recourse to."

"Unless they arise from mechanical violence or intense moral impressions, idiopathic affections of the brain are, I

conceive, very rare in children." "And it appears to me, when a paroxysm of simple convulsions is once excited, whatever may have been the cause of it, that it is essentially the same, although it may differ much in its degree of violence and duration."

His observations on the various forms of convulsive disease, and more particularly on the pathology of convulsions connected with cutaneous eruptions, we consider valuable, being an evidence of the extent of his information and practical experience; our limits only admit of this cursory notice.

Mr. N. appears unwilling to admit intestinal worms as a frequent cause of convulsions in children. For, says he, many "worm cases" have fallen under my care, and I do not remember a single instance where convulsions appeared to depend upon the presence of worms in the intestines, or to be relieved by their being discharged. In this instance we are disposed to differ from our author, as we feel confident in stating as the result of our experience, that not only convulsions are excited by their constant and long continued irritation, but likewise a formidable list of other diseases, such as chorea, tetanus, consumption, dysentery, &c.

It is to be regretted, that our limits entirely preclude us from following Mr. North in his copious observations on the premonitory symptoms of convulsions, and the various morbid affections in which convulsions may appear; p. 80 we make the following extract. "In the remittent fever of infants, convulsive paroxysms are common; and it will require much experience, and a careful consideration of the progress of the disease, to avoid any erroneous diagnosis in such cases. It is very likely to be mistaken for hydrocephalus. In many cases, it is impossible to determine the nature of the disease, until many days have elapsed, and it has assumed a decided form."

Although our author appears to be aware of the importance of a correct diagnosis in this case, he very cautiously avoids it; and gets over the difficulty by telling us, that there is danger in the one disease, but not in the other, "if judiciously treated."

Next follows an enumeration of some of the causes of convulsions, which arrangement is obviously defective, as it leads to confusion and repetition, since our author has already treated of this subject in another place.

Mr. N. very justly observes, that a plethoric state of the blood-vessels may predispose to convulsive attacks, and cau-

tions us against committing an error in practice, by resorting to indiscriminate depletion; as, on the other hand, he considers pure debility or a state of nervous irritability, likewise, a frequent concomitant with convulsion. He adds, "it is worthy of remark, that every animal which dies from loss of blood, is attacked with violent convulsions, during the last moment of its existence. This fact is daily exemplified in slaughter-houses. Puerperal women, who suffer considerable hemorrhage from the uterus, are almost invariably convulsed. There can surely be no 'augmented energy of the vital force' in these cases; for it must be observed, that convulsions occur before any reaction takes place in the system weakened by excessive bleeding."

Being unwilling to enter into a formal analysis of what remains of this extensive chapter, we beg leave to refer our readers to its careful perusal, as it contains much valuable practical matter.

Mr. N. observes, near the conclusion, that we shall rarely be justified in giving a certain prognosis; as sometimes the most violent attacks pass off, followed with but little inconvenience. In other instances, apparently slight at its commencement, either destroys life at once, or paves the way for its future destruction. We should examine into its remote cause. If the subject be robust, the attack will be infinitely more severe than if it occurred in a delicate child, possessing a strong susceptibility.

He adds, the younger the child, the less is the danger to be apprehended; and he thinks the prognosis favourable, when the attacks are slight, and of short duration, and succeeded by the natural cheerfulness of the child. But, on the contrary, exceedingly ominous of danger, when of long continuance, and gradually increase in severity and violence, and leave the child dull and heavy. In all cases which he has witnessed, where the child was suddenly destroyed, the dark livid colour of the face, and the almost stertorous respiration indicated a state approaching to apoplexy. Indeed, no one that has met with this disease, would attempt to deny the uniform existence of extensive cerebral engorgement.

Chap. II.—*Treatment of convulsions.*—Mr. North commences with observing that, as the causes of convulsions are innumerable, the treatment must consequently be ever varying, and for this reason only attempts to lay down general principles of practice. He believes the severity of the attack is frequently relieved by a few drops of the sp. ammon. fœtid. vel. arom., and the warm bath, and the latter is more particu-

larly indicated if the disease is associated with repelled eruptions, or spasmodic colic. He thinks the paroxysm is greatly aggravated by repeated attempts to exhibit medicine internally during the fit; and prefers opiate frictions to the chest and abdomen, the administration of a purgative enema; and if there are evident marks of cerebral determination to open the jugular vein, or apply cups to the temples. The indiscriminate employment of the lancet in every case of convulsions, without refering to the cause of attack, or the condition of the patient, is frequently attended with irremediable mischief, or even the immediate destruction of life. Nothing can be more fallacious than to determine the propriety of this measure, by the violence of the paroxysm; as Mr. N. remarks, the most violent form of this disease he ever encountered, occurred in a weak female, who was exhausted by uterine hemorrhage.

In opposition to the experience of Dr. Currie, who asserts, that the cold bath is very efficacious in all cases; that it arrests the fit, and affords time for the employment of other means, our author states, that he would be unwilling to plunge a child of a very delicate and enfeebled constitution, *into a cold bath, during the paroxysm,* as it would appear to him a hazardous experiment.

He recommends local or general depletion, according to the intensity of the symptoms, and the constitution of the patient; the application of a few leeches to the temples, he considers as totally inefficient; and gives a decided preference to opening the jugular vein, or cupping. He directs active purging with calomel and jalap; and condemns the practice of administering large and repeated doses of calomel every two or three hours.

At p. 156, Mr. North enters into a free discussion of the benefit to be derived from the proper and assiduous application of cold to the head, where symptoms of determination to that organ are present. He advises that the whole head should be wetted with a large sponge, soaked in spring water, to be frequently changed; or the application of pounded ice in a large bladder. If the child becomes pale, and the head cool, it should be omitted, and renewed when the flushing of the cheeks, and heat of the head, indicate a return of vascular excitement. At the same time we endeavour to preserve the natural heat of other parts of the body.

Mr. N. condemns the general application of blisters in children; but apprehends they are productive of the best effects, on the principle of counter-irritation, when applied to the lower extremities, or between the shoulders, in cases where

there was evident determination of blood to the head, *without any general excitement.* When applied to the head, he says, they are decidedly prejudicial. They certainly keep up a discharge from the integuments of the head; but this effect can only be produced by increasing the arterial action within the cranium. This objection to their use would appear to us exceedingly futile, for in what manner, we might ask, would Mr. N. explain the uniform efficacy of blisters in pleurisy, and other inflammatory diseases, unless on the principle of counter-irritation.

He recommends that a diet of milk and water, thin gruel, or arrow-root, and the stimulus of light, and exercise to be carefully avoided.

At p. 165, Mr. North discusses the propriety of employing opiates in diseases of children, and *very justly observes*, that "we are not to deprive ourselves of a powerful weapon, because in the hands of the unskilful it may have proved the means of destruction, rather than of defence." To manage and control their action, when we wish to subdue nervous irritability, he confesses to be no easy task, as their effects depend greatly upon the state of the system, and the dose exhibited. He states, on the authority of Dr. Brachet, the good effects of oxyd of zinc, combined with ext. hyosciam., which, when long continued, entirely prevented the repetition of convulsive paroxysms. Mr. N., however, is induced to prefer the sulph. quinine as a more elegant and efficient tonic.

In derangements of the primæ viæ, which appear to threaten convulsions, our author prefers the judicious use of purgatives to emetics.

At p. 202, Mr. N. alludes again to the use of blisters in infantile diseases; his observations appear to us sound and judicious. If, says he, convulsions occur during fever, we are advised by many authorities to apply blisters freely; but confesses he is ignorant of the principle that leads to their adoption. In many cases he has seen much distress and aggravation of symptoms attending their employment. He has twice known infants destroyed by the consequent sloughing, which could not be arrested. From repeated observation, he is induced to believe, that if blisters were never to be applied *to children in any case whatever*, much less evil would arise from the want of them, than is in common practice daily, or perhaps hourly, inflicted by this popular and painful remedy; unless the child is in a comatose state, and our object is to rouse the nearly extinguished powers of life, he considers them injurious, as excitants.

He adds, at p. 216: "It may be worthy of observation, that Mr. Husson, in his researches upon the vaccine disease, has recorded two cases in which the appearance of the vaccine vesicle entirely freed the patients from convulsive paroxysms to which they had been subject for several months, and which had resisted all the ordinary methods of treatment."

Chap. III.—*On Infantile Epilepsy.*—Mr. North states, that in children, epilepsy is an extremely common disease; to which both sexes are equally subject, during the first four or five years of life; but after the age of seven or eight, it occurs more frequently in females. It is sometimes hereditary, but is much oftener acquired after birth. He thinks that every cause capable of producing even a slight convulsive affection, may, from a predisposition, give rise to a well marked paroxysm of epilepsy. From what Mr. N. has observed, he is disposed to doubt that epilepsy and simple convulsions are reciprocally convertible into each other. In the opinion of Dr. Parry, epilepsy usually depends on excessive impetus of blood in the vessels of the brain, whatever may be its primary causes. But we often have, observes Mr. N., no evidence of such increased action in the cerebral vessels; besides depletive measures, he adds, would rather aggravate the severity, and increase the frequency of attacks.

Epilepsy may be divided into idiopathic and symptomatic; when the cause is presumed to reside in the brain, it is termed idiopathic; the latter disignates that variety in which the cause is situated at some distance from the brain. In children, derangement of the primæ viæ may be considered as the most prolific source of symptomatic epilepsy. And this, as Mr. North observes, is mainly dependent on the important and extensive nervous sympathies of the stomach. In every case of epilepsy, he adds, the brain is affected either primarily or secondarily. The danger is certainly in proportion to the frequency of the paroxysms. The severity of the paroxysm will depend more upon the natural irritability of the child, than the nature of the exciting cause. Cases are recorded where patients have been attacked with epilepsy from the influence of certain odours, sounds, or the sight of particular colours; in one instance, a paroxysm was always induced by the sight of any red object.

Mr. North's description of the symptoms of a *strongly marked* epileptic paroxysm, appears to be faithfully copied from nature, of which we select the following.

P. 230. "The eyes appear to project unnaturally, and are fixed; the eye-lids tremble; the ball of the eye is thrown

upwards, so that only the conjunctiva can be seen; the face is swelled, becomes red, livid, or black, and is sometimes apparently in a state of ecchymosis: the features are horribly distorted by the powerful and irregular action of the muscles of the face: the lower jaw is sometimes firmly closed; at others it is forcibly separated from the upper jaw, and luxation of it is to be feared: the tongue is frequently thrust from the mouth, from which is discharged a frothy saliva; and if proper precautions are not adopted, the tongue may be severely injured when thus protruded, from the alternate contraction and relaxation of the lower jaw; the blood-vessels of the head and neck are excessively turgid: the head is thrown about in various directions, and sometimes becomes suddenly fixed: the whole body is agitated by the most violent convulsions, which may subside for a moment or two, to be again renewed with undiminished force. During this cessation, the child either lies motionless and totally insensible, or rolls its eyes about with a wandering and unfixed gaze, without being attracted by the look of the mother or the nurse, and without the appearance of any degree of consciousness. The limbs of one side are commonly more affected than those on the other. In most cases, the child when attacked staggers and falls instantly to the ground. Occasionally, however, he remains fixed in the position in which he happened to be at the moment of attack: the head is moved from side to side with great rapidity, all consciousness being destroyed. An attack of epilepsy is sometimes marked by a sudden barking noise, arising from a convulsive movement of the pharynx. Sometimes there is a trembling of the whole body, without well-marked convulsions of any part, which is followed by rigidity of all the frame, and total privation of sense. I have myself never seen this form of attack in infants. It is mentioned, however, by most authorities. The respiration is generally laborious. The breathing is sometimes stertorous; and the attack is then closely allied to, if it is not identically the same with, apoplexy in the adult.

Symptoms of internal disturbance are frequently joined to the external and evident convulsions. The child vomits: the stools and urine are passed involuntarily. In fact, the diaphragm, stomach, bladder, and intestines, appear to be under the dominion of the same irregular and involuntary contractions as the external parts.

After the termination of a paroxysm of epilepsy the patient is generally bathed in sweat."

Chap. IV.—*Treatment of Epilepsy.*—In numerous instances, epilepsy may justly be considered as one of the opprobria medicorum. In as much as this disease is dependent on an endless variety of causes, so the indications of cure must be ever varying and uncertain.

Entertaining this view of the subject, Mr. N. proposes in this chapter only to palliate symptoms, and prolong the recurrrence of paroxysms. He directs, that whatever has a tendency to augment the circulation, or to determine the flow of blood towards the brain, should be carefully avoided. The diet to be strictly attended to, and to observe the same principles in the exhibition of purgatives, and in our general mode of treatment, as previously adverted to in the management of convulsions. Mr. N. condemns the application of moxa to the spine, blisters, actual cautery, &c., as calculated to torture the patient, without producing the slightest benefits. And adds, that the rashness of some writers, have even advised us to trephine, in the hopes of finding hydatids in the brain.

Our author has tried *various counter-irritants with but little success.* In some cases the oxyd of zinc appeared to render the paroxysms less frequent. On the approach of a paroxysm in most cases he recommends an emetic of sulp. zinc. He is disposed to infer, from his own observation, that counter-irritants have been extolled from vague notions of what they ought to effect, rather than from any actual good they do.

The antispasmodics, says our author, appear to possess no power over this disease; and opium can rarely be employed, even in cases where the disease is the result of severe local pain.

When the disease is originally caused by excessive debility, we should attempt the cure by a gradual increase of nourishing food, and the cautious exhibition of tonics, as the carb. ferri. sulph. quinine, and the daily use of the cold bath. Inunction with sulphur. ungt. has been recommended by the German physicians.

Chap. V.—*On a spasmodic affection of the chest and larynx in young children, accompanied by general or partial Convulsions.*—Mr. North states, that he has met with many cases of this variety of convulsions, and is thus prepared to describe the morbid phenomena as they exist. We will at once proceed to give a condensed view of the text. P. 254. Premonitory symptoms generally occur between the third and seventh month; on waking, the respiration is accelerated and attended with a rattling noise, arising from a collection of

mucus in the air-passages. The countenance becomes anxious, pallid, and emaciated; contracted alæ nasi; the child frowns almost constantly; when put to the breast, it sucks greedily for a moment, but suddenly ceasing, throws back the head with violence; constipation of the bowels now altered. The child's thumb is firmly pressed on the palm, and various contortions of the body and limbs arise from spasmodic contraction of the muscles. The breathing becomes more hurried and irregular, and each inspiration is now attended by a loud crouping noise; the heart palpitates violently. The paroxysms vary in duration and violence; no well marked febrile symptoms attend.

Our author considers the disease, in many instances, as immediately connected with painful dentition; for, adds he, I have known all the above symptoms gradually disappear upon the appearance of teeth; and instant relief often afforded on a free division of the gums.

Chap. VI.—*Treatment.*—As Mr. N. regards this peculiar affection, in a majority of cases, as intimately associated with a painful and protracted dentition. Hence, he urges the necessity of a prompt and free division of the gums, whenever they are swollen and inflamed. As constipation usually attends this form of convulsions, it is to be removed by calomel and jalap, or inf. sennæ, with tr. jalap. If hepatic derangement is present, he directs a gr. of cal. every night with much advantage. If there is reason to apprehend danger from cerebral derangement, he tells us to proceed as in other cases, with an entire exclusion of external or internal stimuli. Sedatives are usually inadmissible, in order to relieve the difficult and spasmodic breathing, from their tendency to augment the cerebral disturbance. He prefers the ext. conii. or hyoscyami; and suggests the employment of the black drop, as being, perhaps, better adapted than any other sedative, in such cases. Benefit is often afforded by friction upon the chest, with a mixture of laudanum, spt. camph. and soap liniment; blisters he has known to aggravate the disease, by adding to the general irritation and suffering of the patient.

ART. VIII.—*The Use of the Chlorate of Soda and the Chlorate of Lime.* By A. G. LABARRAQUE, Pharmacien of Paris, Member of the Society of Medicine, &c. &c. Translated by JAMES SCOTT, Surgeon. London, 1826. (pp. 36.)

As this pamphlet contains some very interesting particulars, we shall present a concise view of its most important parts. Its author received prizes from "the Royal Institute of France," and from "the Society for the Encouragement of National Industry," as may be seen by the following extracts:

ROYAL INSTITUTE OF FRANCE.

Royal Academy of Sciences.

Extract of the Programme of prizes adjudged at the public sitting, on Monday, 20th June, 1825.

Prize founded by the will of Baron Montyon.

"A prize of 3000 francs is awarded to M. Labarraque, Pharmacien of Paris, for having shown by numerous successful experiments, that the solutions of the chlorates of lime and of soda, mixed with water, may be employed with economy and facility for speedily destroying the infectious effluvia of animal matter used by catgut makers, and of bodies in a state of putrefaction, and for purifying places where the air is corrupted."

Extract of the "*Proces Verbal*" of the Society for the encouragement of National Industry, at a general sitting, 30th October, 1822.

"The Society for the Encouragement of National Industry, in approving my memoir at the general sitting of the 30th of October, 1822, thus expresses itself.

"1mo. Seeing that the first and principal question which was proposed by the counsellor of state, and to which the prize was declared, is completely answered by M. Labarraque, author of the memoir, No. 1. The commission declares that the entire prize shall be adjudged to him, on one condition, to which he shall willingly submit; which is, that of publishing a summary of his experiments, submitting it to the public at large, pursuing with zeal the execution of it in the necessary places. This measure, if the discovery of M. Labarraque is to be rendered profitable, seems indispensable."

We also quote the directions for the employment of this pow-

erful disinfecting agent when engaged in the disinterment and inspection of dead bodies.

Disinterment and Inspection of Dead Bodies.

"Before approaching a dead body in a state of putrefaction, it is necessary to procure a vessel, into which a quantity of water (24 litres*) is to be put, and into this about eighteen ounces (demi-kilogramme) of the chlorate of lime is to be poured, and the mixture well agitated.

"A piece of linen cloth is to be put into the vessel containing the fluid, in such a manner that it can be withdrawn easily and quickly; for this purpose two persons open the cloth, and holding it by the corners, immerse it in the liquid, which is to be placed close to the putrid body, and at the same instant the wet cloth is withdrawn from the vessel and spread on the subject, and soon after the putrid odour ceases.

"If there should be any blood or other fluid issuing from the body, a glass or two of the *chlorated water* should be poured on it. It should then be rubbed with a brush, and the fœtid odour will disappear.

"This operation ought not always to be prosecuted exactly in the manner above described, as it is necessary, in cases where the surface of the body is uncleanly, that it should be cleansed as thoroughly as possible before the disinfecting process is commenced.

"If the taint has extended into the surrounding apartments, galleries, stair-cases, &c. the places infected should be sprinkled with one or two glasses of the liquid, and the stench will cease.

"Care should be taken that the cloth covering the body be constantly sprinkled with the liquid contained in the vessel; thus the reproduction of the fœtid odour is prevented.

"As soon as the body has been carried away, the cloth used for disinfection should be well washed in water, dried and folded.

Disinfection of Water Closets, Urinary Cisterns, &c.

"Three or four pints of water must be poured on two ounces of chlorate of lime, the whole well mixed and strained, and the solution thrown into and over the tainted places.

"If the unpleasant smell be not promptly destroyed, the operation may be repeated in eight or ten minutes.

"If the effluvium proceeds entirely or partly from urine or fæcal matter, this must be sprinkled in like manner."

* About six gallons.

As an illustration of the speedy manner in which it destroys putrid miasms, we quote the following:

"On the first August, 1823, at the request of the '*Procureur du Roi*,' Messrs. Orfila, Lesuer, Gerdy, and myself, went to the cemetery of Père-là-Chaise, to examine the body of a person named B***, who had been dead a month. At half past seven in the morning, we proceeded to exhumate the body, which exhaled an infectious odour. It remained till half past ten on the ground out of its coffin, the persons who were to identify it not having arrived. The temperature was from seventeen to eighteen degrees of the centigrade thermometer. The body was taken to an open and airy place, that the examination might be made as conveniently and publicly as possible. The odour had become still more insupportable, and the body swollen very considerably since its disinterment. It was therefore important to make the examination as speedily as possible. We began by sprinkling the body with chlorate of lime dissolved in water. This solution, introduced by M. Labarraque, 'Pharmacien,' produced a wonderful effect, for scarcely had it been applied, than the infectious odour was instantly destroyed, and we could begin the operation."

Mr. L. thinks he has had the satisfaction of seeing decomposition of the living subject corrected by the employment of chlorate of soda on wounds: "thus carbuncle has been stopped in its ravages and cured; the most intense hospital gangrene, ill-conditioned venereal ulcers, and, in short, gangrenous sores of the worst characters have been speedily brought to cicatrization. The fetid discharge of cancer is corrected by this preparation, and its good effects upon this frightful malady, as well as upon *herpes ulceratia*, continue to be experienced. Observations on the cure of *porrigo favosa* have also been communicated to the Royal Academy of Medicine."

Physicians and others will derive advantage while attending persons affected with contagious disorders, if they are attentive to breathe it when approaching their patients, also moistening their hands with it and causing it to be sprinkled on the floor. This agent may in like manner be used for disinfecting ships, &c. &c. The author then proceeds to relate a variety of affections in which these agents have been used by distinguished men, to wit, by professor Marjolin, in gangrenous affections: "He observes that slough was quickly detached, and the disease checked in the greater number of cases." Dr. Segalas used them in gangrene. Mr. Samson,

surgeon, used them in ulcerations of the mouth with caries of the palate. "Dr. Lagneau used the chlorates as an injection for spongy and ulcerated gums exhaling much fetor." "Dr. Chantourelle treated two cases of cynanche maligna with the chlorate of soda diluted in ten parts of water," and the fetor was destroyed.

"More recently he has been again successful in administering the chlorate in the dose of twenty-five drops in a glass of water, for removing the hydro-sulphuric gas, which severely affected a person who had been poisoned by the hydro-sulphuret of potass after the latter had been expelled by vomiting.

"A very remarkable fact was observed in a case of asphyxia presenting the most serious *tetanic* symptoms, the patient was restored by *breathing the chlorate of soda.*" Other instances are mentioned of its application by M. Lisfranc, in cases of burns, ulcers, &c. L'ozène, or ulcer of the nose, has been disinfected by injections used twice a day, and finally cured. The chlorate of soda was employed diluted with from two to ten parts of water. In fine, there is no end to their application; and there can be no doubt that they are powerful auxiliaries in medicine, and may frequently be employed as *remedial* agents with great promise of advantage.

After relating several cases where they have been used in veterinary surgery with success, the pamphlet concludes with an extract from M. Labarraque's directions for preparing the chlorate of soda, with which we shall also terminate this brief notice.

Extract from M. Labarraque's Directions for preparing the Chlorate of Soda.

CHLORATE OF SODA.

Pure Carbonate of Soda, 2½* Kilogrammes,
Distilled water, 10 Kilogrammes.

Mix in a bottle that will be about one quarter empty, then into a glass balloon bottle (of about two quarts) with a long neck and large mouth, put the following mixture:

Hydro-Chlorate of Soda, 576† Grammes,
Peroxide of Manganese, powdered, 448 Grammes.

* A Kilogramme is 2lb. 3oz. 5dr. Avoirdupois.
† A Gramme is about 15½ grains.

In the mouth of the balloon bottle, lute a large curved tube, and one also in the shape of an S; the first tube is inserted into a bottle containing a small quantity of water, a similar tube passing from this into the bottle containing the saline solution. The lutes being dry, a mixture of 576 grammes sulphuric acid, and 448 grammes water, is to be poured into the balloon through the curved tube S; heat is next applied and gradually regulated until the disengagement of chlorine gas ceases.

TEST.

Powdered Bengal Indigo, one part,
Concentrated Sulphuric Acid, six parts.

Mix, and add nine hundred and ninety-three parts of distilled water—one part of the chlorate of soda, mixed with eighteen parts of this liquid should deprive it of colour.

The saline solution should be of the specific gravity of 12°* by Baumè's hydrometer—if the liquid be too concentrated, add the requisite quantity of water; if, on the contrary, the solution is too weak, add as much of the carbonate of soda as will bring it to the proper strength.

"The formula for the preparation of the chlorate of soda which I published in my memoir, should be *followed exactly*, for if not strictly adhered to, the properties are so changed, that the preparation may be good for nothing; but if the chlorate be properly prepared, the effects related in this paper are always certain of being obtained."

ART. IX.—*Treatise on Repelling the Paroxysm of Intermittent Fever, illustrated with cases.* By J. BROWN, M. D. Fellow of the Linnean Society, Member of the Royal College of Surgeons, &c. Boston, (England,) 1826. pp. 60.

THE principle object of this treatise, is to lay before the profession the writer's method of treating intermittent fever, which has at least the merit of novelty. He administers the sulphate of quinine, at the commencement of the *cold* stage; and it would appear, from his narratives of cases treated after this mode, that it is likely to prove more successful in the majority of instances, than the plan generally adopted; but of this, we shall speak more at large presently.

* 1,089 of common standard; temperature 55, Fah.

The treatise commences with a reference to the supposed causes of the existence of intermittents in the fenny district of Lincolnshire, (where the author resides,) since it has been drained. He finally attributes it principally to the source pointed out by Seg. Giorgini, to wit, a mingling of salt and fresh water. For a more particular notice of this gentleman's views, we must refer to our last number, (page 184.) Dr. B. observes, "I allude to the mixture of salt and fresh water, an ascertained source of infectious miasmata: this arises from two evident causes, from soakage, and the influx of the sea, at the flowing tide into fresh water channels. It is well known that the salt water, in dry seasons, penetrated far and wide, that in some places at a distance from the sea; and having no direct communication with it, that which remains in the ponds and ditches, is brackish, and totally unfit for use. It has been felt severely during this unusually dry summer (1826,) and the consequences are visible enough; for, since the middle of July, remittent and intermittent fevers have been making terrible ravages among the labouring people."

Under the head of *Employment of Remedies*, our author, after noticing in a cursory manner the various means that have been employed from time immemorial to the present, during which he observes, that, the cure of intermittents has almost uniformly been confined to the interval between the paroxysms, and, before their approach, laid aside; proceeds to relate his own plan of treatment, to which we have before alluded. The case to which it was first applied, was on himself; it is not necessary to follow him in his detail of the symptoms of an ordinary tertian .After using the sulph. quinine in the customary way, by taking three grains every three hours during the day unavailingly, he was induced, from what cause he does not inform us, to take the quinine at the commencement of the paroxysm; for the furtherance of its action, he took a strong laxative at night, and the next day about one o'clock, the attack showing indications of approach, he commenced with only two grains of the salt, intending to follow it up with a much larger dose antecedent to the shaking, if this were productive of no good; but in a very few minutes, its effects became apparent. The shrinking of the surface, the dejection of spirits, the painful sensibility to cold, headach, and thirst, and all unpleasant feelings progressively subsided. His surprise was soon checked by a temporary disappointment; after about half an hour's freedom from any sign of the cold stage, the attack returned; but as the symptoms were not more violent than at first, the two

grains only were repeated. He observes, "the result of the first rendered me more attentive to the action of the second. its influence over the rising symptoms became sensibly felt in a few minutes; the pulse became more full and distinct, the respiration easy, the cutis recovered its natural temperature, and in eleven minutes, not one unpleasant feeling remained." This state continued but a short time; in thirty-five minutes, the symptoms returned again in their former order; the quinine was repeated a third time in a two-grain dose, and having acquired some confidence in its powers, he hoped by steadily persevering in the same course, he could continue to repel, and ultimately to subdue it altogether.

This was accomplished after the fifth dose, "between which and the fourth there had been an interval of an hour and a half, leaving a slight glow and moisture on the surface."

Dr. B. then proceeds to detail thirty-six cases, comprehending a variety of conditions, whether of sex, age, or duration, and some of which were of several years' standing, in all of which his method proved successful with one exception; he observes, "in this instance the evacuation had been omitted; the promptness of which appearing to associate with the action of the quinine, I prescribed an aperient to precede that medicine, as in the former case, on the next attack; but the man being obliged to leave the town, I remain ignorant of the result."

Another case is mentioned where the first six doses had produced no effect; "the paroxysm had run through its course." The patent had taken the medicine *during the rigors.* "This," he observes, "was quite contrary to the directions given her, it being an uniform rule with me, to impress on the minds of patients, the necessity of suspending remedies, if they fail to keep back the shaking. A repetition of them, however, was attended with better consequences. By commencing earlier with the quinine, at the next return of the paroxysm, its effects were soon apparent over the rising symptoms; and repetitions, at seasonable intervals, suppressed the paroxysm, and she had no return afterwards."

In conclusion Dr. Brown makes some observations respecting "the propriety of suddenly removing intermittent fevers, particularly those of long duration."

Dr. Fordyce was one of those physicians who retained this prejudice.

Dr. B. as far as we can gather from the text, is of the opinion that this may not only be safely done, but that the danger of organic lesions taking place, demands it; in this opinion, we have no doubt that most enlightened practitioners of the present day will heartily concur.

UTILIA FIDELITER EXCERPENDUM.

ANALYSIS

OF

AMERICAN MEDICAL JOURNALS.

ART. I. *The North American Medical and Surgical Journal, for Jan.* 1827.

THE first in order is a long controversial paper on the pathology of yellow and bilious fevers, by William R. Waring, M. D., in which the author maintains the existence of inflammation in the stomach, in opposition to Dr. Daniel, who considers the post mortem appearances in the stomach in those diseases, as the result of venous congestion. We think Dr. W. has decidedly the best of the argument.

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Dr. Charles D. Meigs gives a short account of a child who had taken stramonium, and as he observes "accounts of this affection are not so very numerous as to have become fatiguing," we shall present an abstract of the case. Miss S——, two years and a half old, found a bag containing the seeds of stramonium—"eat an unknown quantity." *Symptoms*—A high degree of exhilaration, productive of "extravagant gestures and speeches;" this became alarming; laughing, crying and singing, alternately proceeding rapidly from the one state to the other. Occasionally starting forcibly and with alarm she would cry out "that she was going to fall," and cling desperately to her mother. Subsequently she would become calm, then whistle, "and afterwards point with her finger at muscæ volitantes," following them with

her eye and hand, then attempt to grasp them, with apparent disappointment at her want of success. Colour of her face scarlet, more intense than in scarlatina which had come under Dr. M.'s observation; skin hot; pulse much accelerated; tongue and fauces red and dry, so that the former "glistened;" "face, neck and breast covered with hundreds of small brilliant petechiæ," many of them of a stellated form. An emetic was given, followed by infusion of senna, and repeated enemata. One seed only was evacuated by the emetic, and forty seeds were found in the fæcal discharges, (this shows the necessity of cathartics in cases of narcotic poisoning.)

The cerebral symptoms gradually diminished, and she fell asleep. Next day tolerably well, though the petechiæ were still little changed; a troublesome itching of the skin, which occurred yesterday, is now gone; three days after, the petechiæ remained, the child in other respects well; they finally disappeared.

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Dr. La Roche's observations on the use of balsam copaiba, in chronic inflammation of the mucous membrane of the lungs, are valuable. This mode of treating chronic bronchitis is not new, and Dr. La Roche cites those of our predecessors who recommended and employed it; he then proceeds to give the result of his own experience. This remedy he thinks will be found beneficial in both the mucous and pituitous catarrh, but more particularly so in the former. He considers the balsam a stimulant, and explains its modus operandi to be an "impression made on the urinary organs, occasioning on these a stimulating action, by which the irritation of the mucous surface, constituting the disease, is gradually relieved, and finally is made to disappear." We cannot follow his reasonings in support of this doctrine in detail, but shall proceed to indicate the proper state of the system for administering the balsam. When the stomach "is labouring under irritation," it aggravates the existing disease; if there is any febrile action in the system the remedy is contra-indicated, and if the tongue is red, and thirst, together with tenderness of the epigastrium, indicating disorder of the alimentary canal, it should not be employed until that state of things is altered, by the previous administration of appropriate remedies. The balsam "should not, according to Begin, be given for a long period, and that their use should be discontinued for a short time, in order that the stomach and bowels should recover from the stimulation they necessarily suffer, and regain their susceptibility." An itching or eruption on the skin, which gives relief to the cough, is sometimes produced by this remedy; it should then be discontinued. If costiveness supervenes during its administration, "reliance should be placed on enemata, castor oil, magnesia, but more particularly on sulphur, which Dr. Physick has used extensively in this complaint, and with the happiest results." A milk diet, if it can be borne, is the best. Dr. La Roche narrates seven cases, most of them illustrating, in a striking manner, the efficacy of this remedy in chronic bronchitis, when the foregoing cautions are observed. The general dose was twenty-five drops three times a day, which may be gradually increased; it was given either in the form of emulsion, in chamomile tea, or in milk.

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Dr. Farrish's paper on infantile convulsions arising from spasms of the intestines, is one of considerable practical importance. This species of convulsion resembles an epileptic fit in appearance, but differs "from the ordinary form of that disease, both in its origin and the mode of treatment which it demands." The diagnostic symptom by which it may mostly be distinguished from epilepsy, "is the total absence of stupor after the cessation of the convulsions;" attacks sudden and of short continuance, at first seldom frequent; sometimes two or more will occur in quick succession, and days and even weeks will elapse before the return of the convulsions. If not arrested they increase in frequency, until "an almost constant convulsive action is kept

up," and "the infant becomes exhausted, and sinks under the disease." This "affection generally yields to proper treatment," and to prevent relapses attention should be paid to the state of the bowels and to diet. Infants are mostly attacked within the year, and are safe if they survive the period of dentition.

Dr. P. shows clearly that the primary seat of the disease is in the bowels, consisting in spasm of its muscular coat.

The child screams out suddenly, stiffens its body, throws itself back as in flatulent colic, regaining in a few minutes comparative ease. Relief sometimes follows discharges of flatus, which is often accumulated in such quantity as to occasion a swelling of the abdomen, and even tympanitis. The alvine discharges also indicate a disordered state of the bowels, being frequently acid, as is manifested by the sour breath, and the smell and appearance of the stools. A fatal case, which the Doctor had an opportunity of examining, verified the correctness of his views; "more than half of the small intestines were irregularly contracted," &c. Difficult dentition may aggravate the disease. The indications of cure, are "to relax the spasm, and to remove those sources of irritation from which it arises."

Of the remedies necessary to effect the first, venesection is one of the most important. Even when not called for by the state of the pulse, it affords occasionally great relief, and is useful by preparing the system for antispasmodics; "general bleeding is preferable to leeching;" the latter may be resorted to when the child is delicate.

The warm bath is next in order, to be used during the fit, when protracted or severe.

The most reliance is, however, to be placed in antispasmodics; of these, assafœtida in the form of emulsion is preferred; let it be given freely by the mouth and rectum, and if the child screams much in the intervals, a little laudanum may be advantageously combined with it. Keeping the age of the child in view, "from two to five grs. of the gum resin may be given every two hours, and when laudanum is advisable one or two drops may be added to each dose." In the enema, from ten to twenty grains should be used at a time, and repeated more or less frequently, as it may be deemed requisite. If the assafœtida cannot be retained on the stomach, the rectified oil of amber may be substituted for it. It may also, with advantage, be alternated with assafœtida; the dose is from two to five drops, rubbed up with gum arabic. If the case resists these remedies, the musk julap may be resorted to. The dose from half a grain to a grain every hour or two. If the stomach is irritable, and there is severe pain in the bowels, anodyne injections will be useful; from four to eight drops of laudanum may be given in this way, and repeated if necessary. As external means, a liniment composed of oil of amber and laudanum, diluted with equal parts of olive oil and brandy, may be used, and "decided advantage may be expected from freely bathing the back and abdomen with this liniment." In severe cases, a large blister to the abdomen will become necessary.

To remove the sources of irritation, in the very commencement the bowels should be freely evacuated, and throughout the case fæcal accumulations should be prevented by the use of castor oil, magnesia, &c.

Alkaline medicines will be of use to correct acidity. Dr. Physick's alkaline infusion, formed from hickory ashes and soot, is frequently prescribed by Dr. Parrish; it should be diluted, and given in the dose of a tea-spoonful every two or three hours, alternating with the antispasmodics.

For the removal of flatus the dry syringe is generally employed, when the intestines are much distended, and no relief is afforded by the antispasmodics.

If the gums are inflamed they should be freely lanced, and blisters should be applied behind the ears, and kept open. In respect to diet, all flatulent articles of food should be avoided; farinaceous articles, and animal food of

easy digestion, are suitable. If there is reason to suspect that the mother's milk disagrees with the infant, "a healthy wet-nurse should be procured as a substitute."

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Dr. Morris's "cases of fever illustrative of the benefit to be derived from the application of leeches to the epigastrium, and from demulcents, agreeably to the method of Dr. Broussais," are interesting, and several of them present, in a striking point of view, the efficacy of this mode of practice. We cannot go all lengths with the French pathological school; and while we are decidedly opposed to that (we had almost said) empirical mode of philosophizing, which obtains among some at the present day, of drawing sweeping general conclusions from partial observation and imperfect data, we are at the same time the friends of patient investigation and impartial inquiry; and though we do think that in many instances of fever inflammation of the stomach and bowels will be found to exist, yet we do not believe in the universal presence of gastro-enteritis in all febrile affections.

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An interesting case is related by Dr. Pickett, of Alabama, where partial paralysis of one side of the face was produced by extracting a tooth; it terminated fatally. He had "pain in the region of the stomach, which would pass suddenly to either the gastrocnemii muscles or the brain."

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Under the quarterly summary we find a description of an hemicephalus child, by Benjamin Ellis, M. D. "The upper portion of the bones forming the arch of the skull are deficient; the contained substance appears to be imperfect brain." A small body, attached to the upper and fore part by a pedicle, appears to be of the same nature.

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An extract of a letter from Dr. J. B. Finley, Ohio, is published, containing an account of the successful employment of tartarized antimony in the cure of "mercurial sore mouth." His mode of administering it was "in doses of one sixth to one tenth of a grain, in solution, every hour, with a view to a continued mild operation on the skin and bowels, until a cure is effected. In every instance when thus given, it immediately checks the progress of the disease, in twenty-four hours produces very great relief, and seldom fails in forty-eight hours to remove all complaint of sore mouth and throat."

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Aloes in Hæmorrhoids!!—In an extract of a letter from Dr. Crockett, Lexington, Kentucky, aloes is recommended "as the best remedy that can be employed in piles." As far as we can learn this practice originated there with Dr. R. Pindell. After the bowels have been evacuated and the inflammatory action reduced, (i. e. *after the disease is relieved,*) he administers the following tincture:

℞ Aloes Socotorinæ, } aa ℥ij.
Seminum Anise, }

Reduced to fine powder, and infused in a quart of French brandy forty-eight hours, frequently shaking it. The dose is one third to half a wine glass two or three times a day, so as to produce several soft stools, and to be continued until the patient is entirely relieved.

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Under the head of "syphilis treated with scruple doses of calomel," in which notice is taken of Mr. Boyle's cases, (and published in the November number of the London Medical and Physical Journal,) successfully treated by this method, we find the following passage: "The practice of treating syphilis by large doses of calomel, is certainly not new in this country, as it is frequently resorted to by the physicians of our southern states; and has been particularly eulogized by Dr. Cartwright, of Natchez, *as may be seen in*

the first volume, p. 224, of this Journal." From the tenor of this passage, we should be led to infer that the *original* essay of Dr. Cartwright (who we may observe, *en passant*, is not only the eulogist but the founder of this practice in that section of country) was published in the North American Medical and Surgical Journal at the page referred to; but the fact is otherwise, as will be seen by a reference to the Medical Recorder, vol. viii. p. 241, where the original publication of Dr. Cartwright's essay on syphilis will be found in full; and in our last number, p. 194, the same subject is again adverted to, in connexion with the practice of Mr. Annesly in the diseases of India. We are sorry to see a disposition manifested by several of our cotemporaries, which is hardly equitable, to deprive us if possible of the merit of publishing those original communications which have been made to us: we can assure them, however, that while on the one hand we shall avoid imitating such conduct, we shall on the other omit no opportunity of detecting and exposing it.

ART. II. *The New York Medical and Physical Journal, for October, November, and December*, 1826.

ARTICLE first is a case of amputation of the lower jaw, by John Wagner, Esq. surgeon, of Charleston, S. C. So many cases of this kind have recently been published, that it is unnecessary to enter into details. In this case the disease (osteo-sarcoma from the description) had existed upwards of five years, and at the time the operation was performed, "the growth of the swelling internally had increased, so as to interrupt deglutition, and to render it necessary for him to subsist altogether upon liquid food; and the pressure upon the larynx and trachea interfered with respiration." The bone was removed from the second bicuspis tooth to its ramus between the angles and processes.

In most of the cases where this operation has been performed, the carotid artery has been previously tied, with the view of preventing hæmorrhage: we perfectly coincide with Mr. W. that such a step is not only unnecessary, but is calculated to increase the dangers of the operation; but we must confess, at the same time, that we do believe this preparatory measure *is calculated* to prevent hæmorrhage; and although "we have witnessed the very free and ready passage of the common coarse injections of the dissecting rooms from one carotid to the other," we are not prepared to "answer this question in the negative." The experience of Travers, Wardrop and others, proves that anastomosing aneurisms about the face and orbit may be cured by passing a ligature around the carotid of the side affected; this also proves, that notwithstanding the free anastomoses, the circulation is considerably impeded, and consequently that in an extensive operation the danger *from hæmorrhage* would be considerably lessened. The other objections urged by Mr. W. are sound and just.

Some difference of opinion exists among surgeons respecting the propriety of this operation under any circumstances; there is no doubt it has been performed in cases where the nature of the disease admitted of cure by more lenient measures. Why not treat necrosis of the lower jaw in the same manner as necrosis of the tibia? We have a case at present under our care, exhibiting a combination of necrosis and exostosis; the sequestrum is contained within a new bone, whilst a thin shell of bone surrounds the whole, constituting a tumour nearly as extensive externally and in the mouth, as in the case detailed by Mr. W. In this case, with the concurrent opinion of three of the most eminent surgeons in this city, we some time since per-

formed an operation; an opening was made into the tumour within the mouth, (to prevent the deformity which would result from an extensive incision, as the patient was a female,) by means of a chisel, a portion of the external shell was broken up and removed, but the sequestrum was so firm that it was thought proper to desist until it should become sufficiently loose to be extracted without much violence. The opening made in the tumour still continues, and several spiculæ of bone have been discharged; the tumour is diminished in size at least one third, and with a marked abatement of pain. Whether completely successful or not, we shall look to the result of this case with considerable interest, and shall not fail to communicate it.

Mr. W. states, that in his case "there was no attempt at reproduction of bone," and at the conclusion alludes to two cases, in which "there was such a reproduction of bone as to sanction the idea that the jaw would, in time, be again perfect in form." Of the latter of these cases we can say nothing. Of the former we assert, on the highest authority, that the whole system of the child participated in the disease when the operation was performed; and we do know that there was very speedily a "*reproduction*" *of the disease, followed by death!*

We have no doubt that if only a small portion of the bone was removed, and the sawed extremities were approximated, union would take place; but we question if one half of the lower jaw would be reproduced. Indeed, the case of Dr. Deadrick, of Tennessee, (who, by the way, has the credit of having first performed this operation,) reported in this Journal, vol. vi. p. 516, seems to settle this question. In 1810, Dr. D. removed a portion of the lower jaw from the angle to the chin, from a *lad* of fourteen years of age. The operation was successful. "Shortly after the patient recommenced *growing*, and is at this time (1823) an ordinary sized *man*. Although thirteen years have elapsed since the operation, no connecting medium has arisen between the ends of the divided bone."

We consider Mr. Wagner's case highly creditable to him as a surgeon and as an operator.

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Several cases of inflammation of the larynx and trachea, constituting an epidemic of limited locality, are related by Samuel Webber, M. D. of Charleston, N. H. The most striking peculiarities in these cases are, that "they all occurred within a quarter of a mile of each other, and took place in the space of ten days, from December 30th, 1824, to January 9th, 1825." They all yielded to mild remedies, emetics, nauseating doses of antimon: tart:, blisters, and occasionally a mild cathartic. Blood-letting was not employed in any of the cases.

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Dr. Heustis, of Cahawba, Alabama, relates several cases; the first, a case of suppression of urine from stricture, in a lad eleven years of age, relieved by the introduction of the bougie as occasion required. Ten days after the Doctor first saw him, discovered a calculus near the mouth of the urethra, which, when cut out, proved to be "about the size of a mulberry."

The strictures in this case appear to have been spasmodic, and were probably caused by the irritation of the calculus. To overcome the spasm, and to relax the canal so as to enable him to introduce the bougie, Dr. H. made use of an injection of an infusion of tobacco into the urethra, and he was then able to pass the instrument. He states, that in about two hours after, the injection brought on "an alarming degree of relaxation, so that the patient could scarcely articulate in a whisper, and lost all power of motion." He recovered.

The injection of an infusion of tobacco in cases of spasmodic stricture, will prove a valuable auxiliary; but it is evident from the above, considerable care will be required in its application.

Some cases of dropsy are related, which were cured by digitalis and

squills; calomel, so as slightly to affect the mouth; occasionally a purgative, and muriated tincture of iron as a tonic.

An interesting case of fracture of the skull, with the loss of a portion of the brain, in which Dr. H. employed the trephine, follows. "In about eight days from the operation the patient was able to sit up a little, and in a month more was perfectly recovered."

A case of extensive injury of the fore-arm is given, in which gangrene came on the third day; on the fourth "the inflammation, swelling, and incipient mortification had extended nearly to the shoulder joint." There was no line of demarcation between the sound and diseased portions, and as the gangrene was rapidly extending, although the operation was deemed hazardous, yet it offered the only chance of saving the patient; the arm was accordingly taken off high up, and the wound dressed in the usual manner. "Upon partially removing the dressings on the third day, it was found that mortification had attacked the stump, which was now dressed with the bark and charcoal poultice, and the patient put upon the use of bark and wine." Under this treatment the sloughs separated in a few weeks, and the man recovered.

"This case shows that operations may be performed on parts in a high state of inflammation, and even of incipient mortification, without proving fatal."

A successful case of bronchotomy concludes Dr. H.'s interesting paper.

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Next in order is a highly interesting case of compound luxation of the astragalus inwards, in which the efforts at reduction proving ineffectual, Professor Stevens immediately removed the bone; the scaphoid end of the bone was brought out foremost; not more than an ounce of blood was lost. After the operation, "the limb was laid flexed on its outer side on a splint suitably covered with tow, and a pillow beneath it. The edges of the wound were dressed with lint, and a roller rather loosely applied around the foot and leg, including the splint." At the time the case was drawn up, the patient "was able to walk, with a cane, with considerable ease and *flexibility* of the ankle joint, and the deficiency in the length of the limb was very trifling."

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James Fountain, M. D. of Yorktown, West Chester county, N. Y., relates a case of chorea sancti viti. There is nothing new in the treatment, with the exception of the *quantity* of arsenic that was administered. For some cases of chorea cured by the same remedy, in *smaller* doses, see Medical Recorder, vol. iii. p. 457; also, Dr. Johnson's remarks on the impropriety of large doses.

Dr. F. in some "remarks," after detailing the above case, says: "With respect to the extent to which the administration of arsenic may be safely carried, an adult may take, in extreme cases, five grains in twenty-four hours, provided he labours under no dyspeptic or other gastric affection, and takes a cathartic within twelve hours after the last dose."

We select the following from a work which has been highly eulogized by the editors of the New York Journal. "The oxide of arsenic acts with great violence when taken internally, and commonly destroys life in a very short time. When taken in too large a dose, as for instance one-fourth of a grain, it excites nausea and slight chills. By continuing it in such doses it destroys the appetite, excites vomiting, pains in the stomach and bowels, painful diarrhœa, great anxiety and oppression in the breast, debility and emaciation, numbness of the hands and feet, dropsical swellings, tremors, and paralysis. In doses above *a grain, it destroys life*, with symptoms denoting inflammation of the alimentary canal."

We know from the experiments of Orfila, and those more recently of

Professor Cooper and Dr. Nancrede, that the *horse* will bear a drachm of arsenic with impunity.

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Dr. Hoyt, of New York, makes some very judicious observations on the use of calomel in the cases of children.

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Stephen Brown, M. D. of New York, relates two interesting cases of compound fracture of the patella.

The first, a girl aged twenty-three, in descending a wall, fell a considerable distance. The right knee struck upon a stone, with such force as to fracture the knee-pan above its middle, and lacerate the soft parts completely through into the cavity of the joint. The wound was immediately dressed by a surgeon with lint and bandaging. On the day after the accident, when Dr. B. first saw her, the knee was much swollen, tender and painful; pulse rapid, skin hot, thirst, &c.; discharge from the wound thin and watery.

Dr. B. directed her to be kept lying upon the back, the leg extended, and the knee enveloped with an emollient poultice, made with Indian meal and water, besmeared with hog's lard, and a dossil of lint interposed between the wound and poultice. Inflammation had supervened to such a degree before this course was adopted, that it continued to increase; the knee became exquisitely painful, the circulation rapid and feeble, great prostration of strength, and for two weeks it was doubtful whether amputation would not eventually be necessary, as the last resort, for the safety of the patient. In four or five weeks the swelling and tenderness had abated very much; the wound more healthy in appearance, and the discharge better conditioned. When the tenderness had so much abated that light pressure could be borne, the figure of 8 bandage was gently applied, and over this the poultice. The fragments united by ligament nearly an inch from each other, and in a few months after the accident she sustained little or no inconvenience from it.

Dr. Brown, in some truly excellent remarks upon injuries of large joints, objects to general bleeding; he believes that such injuries produce a *fever of irritation*, and hence directs his treatment to operate upon the *nervous system*. The most important step is to place the limb in such a position as will produce the greatest relaxation, and guard against motion. 2dly, Emollient applications, as poultices. 3dly, Opiates, both to the part and internally, as occasion may require; and if blood be taken at all, directly from the part, by leeches.

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A Case of Anomalous Delivery, by John W. Stirling, M. D. Along with the fœtus there was no discharge of liquor amnii; in a short time after the delivery of the placenta, a substance was discharged enveloped in a delicate membrane, to which was attached a small white worm, about five or six inches in length, and a line in circumference. The worm was apparently alive when the Doctor first saw it, "for on putting it into a vial of water, it kept itself suspended; but on substituting spirits for the water it fell in a coil to the bottom of the vial." The substance discharged was found to contain spiculæ of bone, cartilage, hair, and a dark coloured carbonaceous substance.

Will not the difference of *specific gravity* of the two fluids sufficiently account for the only evidence which he has assigned of the vitality of this supposed worm?

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A quarterly report of the diseases treated at the New York Dispensary follows.

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Under the head of domestic intelligence, we find a case in which, "by *powerful and repeated efforts at wrenching*," the "whole of the parotid gland was *successfully* extirpated." The only artery tied was the temporal.

"What became of the internal maxillary artery," the operator could not discover. Nor can *we* discover what became of the numerous other branches which are given off by the carotid in this situation. "Thou comest in s ch a *questionable* shape," that we have doubts of thee.

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In a notice of the "University of the State of New York," we find the following statement. "Being the *only medical college* in this large and rapidly extending metropolis—patronized by the constituted authorities of the state—under the auspices of a board of regents comprising many of our first citizens for rank, learning, and intelligence—this institution offers advantages equalled by few others in our country."

From the plan adopted in arranging the above sentences, strangers would be led to infer that only one medical college existed in the city of New York. We must express our surprise that the *independent* and enlightened editors of the New York Journal should have passed over Rutgers Medical College, established in that city; particularly so, as that institution is under the direction and management of some of the first medical talent and character of our country. Had it been otherwise, got up by men of a very different description, we should have commended the silence.

In making these remarks we do not wish to be understood as stepping forth the champions of Rutgers College, (or under-valuing the talents of the highly respectable gentlemen who occupy the chairs in the other medical school,) on the contrary, we disclaim being slaves to any institution or set of men whatever; the evil attending such a course we see strongly marked in the New York Journal; in justice to which, however, we might apply the same remark to other periodicals.

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It may be recollected by our subscribers, that in the last October number of the Recorder, under the review of the New York Medical and Physical Journal, notice was taken, among others, of a paper on Irritation, by a Dr. Fountain, of New York; part second of same paper was noticed in our last number; and in as much as Dr. F. "complains" that the above were "barely noticed," and that "no information whatever is conveyed of the different subjects of which he treats," we have thought proper, "*in justice to Dr. F.*" as well as for the *benefit* of our readers, to give them some further remarks *teeming with* "*irritation*," from the *same pen*.

"A CARD.

"I was not a little surprised to find in the October number of the Philadelphia Medical Recorder a notice of my paper on Irritation, in the form of an indecorous and abusive attack, highly evincive of the perverseness and illiberality of the writer's sentiments. The objects of medical journals, as far as I can judge, are to collect and disseminate all improvements in medicine, surgery, &c. Now, if an essay contains no improvements, it certainly has no claim whatever to notice; and the public are only insulted and pilfered of their time and money by being presented with that which is equivalent to nothing. The plan of *reviewing* the articles of one journal does not fall strictly within the province of another, unless the latter be wholly analytical, and not a mere recorder; and to review an essay, evidently for no other purpose but to make a display of one's ability in abusing it, is beneath the character of any man not a professed harlequin. I must be permitted to remind the sage conductors of the Recorder, that only a moderate share of intellect is requisite to censure and disjoint an essay; and that it is as much easier to destroy than to build, as it is *to borrow whole reviews* than to write them. He who thinks to bolster up a reputation at the expense of other men's, will eventually find himself viewed more in the light of a blustering pest than a man of science.

JAS. FOUNTAIN.

"P. S. Since writing the above note, I have seen the January number of the Recorder, in which I perceive that the continuation of my Essay on the Diseases of Irritation is barely noticed, with the view of extracting a solitary case for the benefit of the readers of that all-devouring receptacle of cases, but no information whatever is conveyed to them of the different subjects of which I treat. This omission I should pass over in silence, but the work having fallen in other hands, some show of fair dealing was to have been expected from the desire natural to all *novices*, on their first starting from obscurity, to ingratiate themselves with a public, ignorant of their claims to character or competency. Yet why should I complain, when there are so many other instances besides my own in which the most gross illiberality, as well as the most shameful ignorance, have been displayed in the conductors of that spiritless journal? J. F."

What could have induced Dr. Fountain to publish such a silly thing, we are at a loss to comprehend, unless indeed he be labouring under one of those conditions of disease which he hath so *happily* termed "*Diseases of Irritation.*" We should be led to this conclusion from the singular discrepancies observable between the foregoing and subsequent parts of his *card;* for whilst in the former he displays great "*irritation*" at our having amply noticed that which "is equivalent to nothing," so in the latter, equal "*irritation*" is displayed at our "omission" of that which "has no claim whatever to notice."

To be plain, however, we are almost inclined to believe that Dr. Fountain is either not the author of this *choice* production, or that some of the sentences have derived their origin from a *higher* source. We are irresistibly impelled to this conclusion, from the circumstance that *similar* remarks appeared on a former occasion, under precisely the same circumstances, (on a change of editors,) in that Journal, which were thought at the time too contemptible to notice; nor would they now have called forth our animadversions, did not their *repetition* appear invidiously aimed with a view to injure the Recorder.

If Dr. Fountain felt himself aggrieved, why did he not take advantage of the offer made in our last number, that "our pages will always be freely open to appropriate replies?" This would have been a more correct course than to have attached his name to a vituperative, "indecorous and abusive attack," which should cause its *author* to be viewed "more in the light of a *blustering pest* than a man of science."

Perhaps the most intelligible part of *Dr. Fountain's card* is that wherein he calls our Journal an "all devouring receptacle." This we consider a compliment, as unquestionably *he* means that we give every thing new and *important* to the profession, leaving little for others; for this we return *him* our kind acknowledgments; but we must confess we think *him* too much of a "*novice*" in conducting works of this kind, to suppose, with *him*, that reviewing articles in other Journals does not come within our province. We contend that it is the duty of editors *bound to no party*, as the guardians of medical science, to notice every thing that comes before them, and to divide the wheat from the chaff; this we shall continue to do, notwithstanding the torrents of abuse that may be poured forth from *any* FOUNTAIN subservient to the BECK of the New York Medical and Physical Journal.

Having received many new subscribers commencing with the present year, who may probably not have seen the notice of Dr. Fountain's paper by the late distinguished editor of this Journal, we deem it advisable to reprint what was written by him; which, with our notice in the January number, will enable the profession to judge of our "gross illiberality," &c.

Dr. Fountain, in a paper on the Diseases of Irritation, gives the following facts on the effects of mercury: An ointment made of corrosive sublimate,

applied to the hand in a case of psora, produced intolerable pain; which continued for two months: opium partially relieved it; at length it subsided. In another case a person was salivated by calomel; severe pain came on in paroxysms, and in both sides of the face; it came on in sudden twitches, and was cured by administering a dose of ipecacuanha every evening, followed throughout the forenoon by a tonic of quassia, with carbonate of potash; which operation is explained by Dr. Fountain by the sudden impulse communicated to the nervous system, which effected a change in the morbid condition of the nerves concerned, whilst the tonic supported the natural powers of the system, and thus prevented the evolution of the irritative action. This explanation of the mode of operation of this medicine, is given as a specimen of the medical philosophy which runs through this paper. Can Dr. Fountain suppose for a moment that this circuitous mode of expression of the simple fact that the emetic, &c. cured the disease, is philosophy, or an explanation of any thing but a desire to indulge in long words, and a love of spinning the web of a too pregnant fancy, thereby to sail through the atmosphere of medicine; not, however, to the admiration of those who contemplate these flimsy and airy productions. The above facts are the only things to be remembered in this essay: Irritation, phlogosis, &c., the prevailing terms of the day, by which its novel doctrines are couched, express simply, a noxious effect produced by agents on the system; an effect, however, too vaguely designated by them, to consider them or the doctrines founded on them as of any use, either in a practical, or of any solidity or duration, in a theoretical point of view. Certain agents, as a wound, followed by tetanus, produce an irritation followed by death; others, as pure sulphuric acid, taken into the stomach, or the miasmata producing malignant fevers, occasion the same result by inflammation, &c. Does this phraseology convey any thing new, practical, or useful, to the mind? The belief that tenanus is an irritation, is disputed; some say it is an inflammation,* others say not;† and both prove their points by dissection. Do the miasmata which produce malignant fevers, occasion death by inflammation or irritation? There is the same difference of opinion also upon this point, and the same appeal to the same mode of proof; the same variety of practice and of symptoms adduced to show that the disease amounts, sometimes to inflammation, at others to irritation, without being able to ascertain where the one begins and the other ends, or the appropriate remedies for each, or the actual existence of each particular state in any particular case, and determine whether the remedies for irritation or inflammation are proper. These terms express simply a morbid influence, and that very vaguely; we are still left to the symptoms or phenomena, and very often to that ignis fatuus, still more illusory, the predisposition hereditary or acquired, to determine what remedy in each case is proper. This applies to tetanus. By some it is treated by blood-letting, as if it were an inflammation; by others by stimulants, as if it were an irritation, as it is called; and each pleads the value of his practice; showing evidently that these doctrines express the uncertainty, and not the certainty of our art.

* See Saunders on the Spinal Marrow. † Carmichael.

ART. III. *The Philadelphia Journal of the Medical and Physical Sciences, for February*, 1827.

THIS number commences with a paper on sclerotic inflammation, by Dr. Hays. Having premised that from his experience he is induced to believe this affection of more frequent occurrence than is generally supposed, next described the anatomical structure of the sclerotica; he then proceeds to enumerate the causes of the disease, and the means by which it may be distinguished from iritis and conjunctivitis; from the latter it is distinguished by the absence of puriform discharge; the eyelids not affected; the vessels are of a "carmine or rose-red colour," deep seated, and running nearly in straight lines: in conjunctivitis the vessels are darker, tortuous, and superficial.

Treatment.—In the acute form, if there be violent pain, strict antiphlogistic measures; when this stage is subdued, mercury, with sedatives, sarsaparilla, &c.; in the intermittent form, liq. arsenicalis, with laudanum, and when attended with gastric or hepatic derangement, mercurial purges or antimonial emetics.

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Dr. Samuel Jackson, in a valuable and highly interesting paper, presents a general summary of the principles of the doctrine of irritation. Whilst we cannot trace him through his various divisions and subdivisions, we are willing to concede to him the merit of having offered a system which seems to us to possess "higher claims to be considered as a fuller and more regular scheme, composing a natural arrangement, based on pathological facts, than those which have been proposed by the writers who have treated on this subject."

The following case which is given as an example of *congestive irritation*, we select on account of its novel practical utility. A girl, ætat. 22 years, having become overheated, exposed herself, lightly clad, to a strong current of air. In a short time she experienced a sense of stricture in the chest, and in the course of the day could scarcely breathe. Dr. J. was sent for, who found her sitting erect in bed; mouth gaping, incapable of articulating a syllable, and breathing with the greatest difficulty. The extremities and surface cold, pulse feeble and regular, no respiration could be detected by the stethoscope, except immediately under the clavicles. Regarding the case one of extreme congestion of the lungs, a vein was opened in each arm, but after the first spurt, which emptied it, blood ceased to flow; cups to the chest, and sinapisms, &c. to the extremities, slightly ameliorated the symptoms. The danger of the patient being still imminent, and having no convenience for the warm bath, Dr. J. had a quantity of sand heated as hot as could well be borne, and had it poured over the patient, and by elevating the sides of the sheets, she was completely buried in the hot sand. In a few minutes respiration became freer, the pulse rose, blood was obtained without difficulty, and in half an hour the danger was dispelled. Inflammation subsequently ensued, which required the use of antiphlogistic measures for its removal.

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We pass over the paper of Dr. Griffith on infanticide; the thesis of Dr. Shaw, of North Carolina, on the modus operandi of medicines, which is highly creditable to him as a writer; and Pendleton's observations on monstrosities; to matter of a practical nature.

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Thoughts on the Pathology and Treatment of Hydrocephalus, we recognize as the valuable lecture of Professor Chapman. After stating that mercury is now comparatively little employed in the treatment of this disease, he says he is inclined to suspect that it is owing to the timid and incompetent course adopted. To be effectual, it should be given in as large a quantity as the

stomach and bowels will bear, and externally applied by friction with the strongest ointment, most diligently and copiously.

Two cases are given of its success, used in this way. In one case, of a child aged six years, fourteen pounds and a half of the ointment were consumed in fourteen days, and on the appearance of ulceration of the gums convalescence rapidly advanced.

We have used this remedy extensively in one case of well marked hydrocephalus, with complete success.

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An interesting case of aneurism of the abdominal aorta, is related by Dr. Comstock, in which the aneurismal tumour communicated, by an opening three-fourths of an inch in diameter, with the sigmoid flexure of the colon, through which blood had escaped into the intestines, and caused the sudden death of the patient. See p. 189, vol. x. of the Recorder.

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George F. Lehman, M. D., relates three cases of hæmorrhage from the urethra; in one of the cases about a pint of blood, and in another from twenty-five to thirty ounces were lost. The hæmorrhage was readily suppressed by cold applications, sugar of lead internally, rest, diet, and a saline purge. In one case, from the age of the patient, (seventy-six years,) it was considered a case of atonic hæmorrhage; injections into the urethra were prescribed, composed of one drachm of alum to eight ounces of water, and fifteen grains of kino to be taken morning and evening. In four days the bleeding (which had been regularly *dropping* for six days) ceased.

We have had under our care two cases of this kind. Both yielded readily to cold applications, and the internal use of sugar of lead and opium, with the observance of rest and diet.

ANALYSIS

OF

FOREIGN JOURNALS.

ART. IV. *Bibliothek der Practischen Heilkunde.* By HUFELAND AND OSAN. Berlin, 1826.

Efficacy of Radix Artemisia Vulgaris. By DR. GETTERMAN, of Emden.—Dr. G. was induced to add his testimony in favour of this medicine, from the extraordinary and happy effects he obtained from its exhibition in the following cases.

D. M., a delicate girl of ten years of age, had almost constantly suffered with scrofulous symptoms, such as enlargements of the glands and chronic inflammation of the eyes; but this last affection had diminished considerably for some months past, without any thing having been done to procure such a result. In the month of April, the child was observed to bend the knees so much in walking, as to endanger her falling; this was attributed to debility, and no means were adopted to remedy it; but in about eight days after the first symptom was observed, the child could not sit without moving her limbs constantly, and her speech became indistinct. At this time all the internal and principal functions were apparently perfect, and the irregular motions of the child were supposed to arise from habit, but as they increased daily, Dr. G. was consulted, and found the child in the following situation: whether sitting or lying down, the extremities were in constant motion; the muscles of the face contracted incessantly, drawing the mouth in all possible directions, with as much rapidity as if they were acted upon by the electric fluid, and the muscles of the breast, abdomen, and of the whole body, contracted without interruption. The little patient could not sit in a chair, unless she was supported, and walking was extremely laborious, on account of the motions of the whole body, and the bending and tottering of the joints. The speech was so indistinct, that it was almost impossible to understand her; this difficulty of speech appeared to depend upon the constant and irregular motion of the tongue. Deglutition was so laborious, that the food frequently ran from the mouth. The disease had not affected the mind further than that the little patient was irritable, and disposed to cry from the slightest causes; this was particularly the case, whenever in eating she carried her hand past, instead of to her mouth. She complained of no uneasiness, except occasionally of slight pain of the bowels, which were regular, the tongue was clean, and the appetite good. She slept well, but during sleep the motions instead of ceasing, were merely slighter than during her waking moments. The disease was clearly St. Vitus's dance; but its cause could not be traced. The patient had never before been afflicted with convulsive or nervous diseases, and she was too young to suspect approaching menstruation, as the cause of the disease. The spontaneous disappearance of the inflammation of the eyes was certainly worthy of remark, but from that circumstance no guide for the treatment could be found, and it was concluded to consider the disease as a pure nervous affection; but as authors

frequently ascribe spasmodic affections, particularly St. Vitus's dance, to intestinal worms, Dr. G., although he did not suspect them in this case as its cause, determined to prescribe anthelmintics. The cortex geoffroyæ recrin. with ext. nuc. jugland. as the most active vermifuge, and jalap and calomel as a purgative, were administered for six days, without any other effect than that disease increased to such a degree that the muscular contractions were more rapid and general than before, the nights became restless, and a slight fever came on every evening. The medicines used being considered inefficacious, it was deemed advisable to have recourse to such as were proper to diminish the increased excitability of the nervous system, and for this purpose the powdered root of belladonna in one half and one grain doses, every three hours, was given during eight days; but this medicine made no change in the disease, and merely produced a great dryness of the throat. Flor. zinci. and valerian were next given during a week, and afterwards ammoniated copper, for the same period, without any advantage. The failure of these much extolled medicines was extremely perplexing, particularly as a complete cure had been anticipated from them. Dr. G. having effected, a short time before, a complete cure of eclampsia infantilis, by means of the artemisia vulgaris, was induced to have recourse to it in this case, and accordingly prescribed a scruple of the powder three times a day, and blisters to the calves of the legs, to be kept in a state of suppuration. In a few days, the contractions of the muscles were less frequent, the nights more tranquil, the speech became more distinct, and the fever diminished. The medicine was continued, and the improvement was perceptibly going on, so that in fourteen days from the first exhibition of the artemisia, the disease was perfectly cured; but in order to anticipate a relapse, the medicine was ordered to be continued for a few weeks, after which the tincture of iron was prescribed, and the cure proved to be radical.

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A child six months old, of healthy appearance, and born of a very healthy mother, who, however, during her pregnancy lost her husband, and in consequence of her loss suffered great and long continued melancholy, was taken to Dr. Getterman for his advice for a spasmodic affection which it had been labouring under for two months. The spasms came on from five to six times a day, and each attack lasted ten or more minutes, during which the eyes rolled in their sockets, the limbs were thrown into strong clonic spasms, and the child screamed considerably; after each attack, general relaxation and sleep followed, and the child awoke in apparent perfect and robust health. There was no assignable cause whatever for the disease. Teething had not yet taken place, nor was there the least appearance about the gums of its approaching, therefore, as the disease had already lasted two months, teething could not possibly have any share in producing it. The mother, who nursed the child, had abundance of good milk, and was in excellent health, but the grief which she had suffered, it was thought, might have deteriorated her milk, therefore it was proposed to take the child from her breast, but to this she objected, and it was for the time abandoned. In order to ascertain, if any product of bad digestion might be the origin of the disease, emetics and cathartics were administered for some days, but without any beneficial result. Flowers of zinc, the extract of hyosciamus and musk, were tried next with the same ill-success; and, as a last resource, the artemisia was prescribed in five-grain doses, four times a day. In the course of three days the spasms had sensibly diminished, both in frequency and intensity, and after the expiration of a week the patient was entirely cured.

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Hufeland's *Case of Tic Douloureux cured by mineral magnetism.*—A woman had suffered a long time with an extremely severe tic douloureux of the face, and not having obtained any relief from the most active tonic and nervous medicines, in despair with her affliction, she stroked the part slowly for

some minutes from upwards downwards with the north pole of a large and strong magnetic steel, and found immediate relief from the application. On the next day the pain returned, and was relieved by the same means. A recurrence to the magnetism a few more times cured the disease entirely.

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Antiquity of Vaccinia, and the origin of Variola from it.—Dr. Prela, chief physician to the Pope, has in a work upon the subject concluded, with some appearance of probability, that vaccinia existed in ancient times under the name of boa, a name indicative of its origin from the cow. He forms his opinion from passages in the works of Pliny and Celsus, and supposes that variola itself arose from the action of vaccinia upon the human system; hence the reason why vaccinia, and the small pox inoculation, both protect the system from the spontaneous small pox.

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Case of Death from a blow with a whip staff, by Dr. Henze, of Waldenburg.—On the 27th June, a boy seven years old received a blow, from an oaken whip staff, an inch thick, by the hands of a child five years of age, on the left temporal bone. He complained immediately of great pain of the part, about which, however, there was not the least appearance of injury. On the 3d July, he began to suffer much pain on the left side of the head, and to vomit. A surgeon was now called in, and not being informed of the blow, prescribed an emetic, and some cathartic medicine, and the patient continued to walk about the room. On the 13th July, coma, palsy of the left side of the face, of the right arm and leg, and thickness of speech appeared. The patient was constantly placing his hand upon the left side of his head. Bleeding, leeches, and cold applications to the head, and blisters, were prescribed without any improvement. On the 16th July, Dr. Henze was consulted, and found the patient suffering with all the symptoms of cerebral inflammation. After a close examination of the case, and all the circumstances attending its progress and origin, he became acquainted with the fact of the blow having been received. Calomel, digitalis, applications of ice, and twelve leeches to the head, and baths of carbonate of potash were insufficient to save the little patient, who died on the 18th of the month, and the 21st of his disease. Upon examination of the body, the skin and bones of the left side of the head were found quite sound, except that the bones were discoloured; the dura mater, tunica arachnoidea, and pia mater, were much distended with blood vessels; the cerebrum was covered with a puriform coat, and the vessels of the cortical and medullary substances were much injected with blood. The ventricles were filled with water, in quantity about six drachms; the cerebellum was inflamed throughout its whole substance, and a teaspoon-ful of dark blood extravasated at the union of the sphenoid and petrous bones. In no part of the basis of the cranium was there any injury.

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Oil of the Euphorbium Lathyris as a purgative.—Calderini tried the effects of this oil upon himself, and afterwards upon four patients ill of gastric fever. He procures the oil by pressing the seeds, of which fourteen ounces yield about six of oil, very similar in its external properties to castor oil, except that it is thinner, clearer, and without smell and acrid taste. By heat and long keeping it becomes dirty, acquires a sharp and rancid taste, and loses its transparency. It is not soluble in the strongest alcohol; it forms soap with alkalies, and burns with a white flame, and without smoke. According to Calderini, it operates gently and certainly, without producing colic, tenesmus, or vomiting, and may be given in irritable states of the digestive canal. In activity it is but little inferior to the oil of croton. The dose varies from two to eight drops, and as it has neither taste nor smell may be administered without difficulty.

Epilepsy cured by Radix Artemisia, by Dr. Wolfe, of Warsaw.—A man, forty-two years of age, had been subject to epileptic fits for eighteen months, and confined to the house for two or three months. It was impossible to discover the cause of the disease, unless congestion of the abdominal viscera and hemorrhoids, in consequence of too free a use of fermented liquors, were to be considered as such. The attacks came on at night, and it was only the headach next morning, and occasionally the bitten tongue, that made the patient conscious of their having taken place. In order to regulate the abdominal circulation, leeches were applied to the anus, and the tartrate of potash, with the saponaceous extracts, and mineral waters were prescribed. These remedies did not check the epileptic attacks. A drachm of the powdered root of artemisia in warm beer was directed to be taken every night for six nights, and afterwards every other night for two months. Since the period of taking the medicine to the present time, which is about eighteen months, the patient has not had an epileptic attack. The first dose of the medicine produced a copious perspiration.

Art. V. *The London Medical and Physical Journal, from September to January*, 1827.

Case of Bronchocele, occurring in a female ætat. 17, in which the superior thyroid arteries were tied, by H. Earle, esq. The patient, when admitted into St. Bartholomew's Hospital, experienced great difficulty in respiration and deglutition; pulse 120; bowels costive; catamenia absent five months. Cough and pain in the chest excessive, with constant headach and drowsiness. The superior thyroid arteries greatly enlarged. Leeches and evaporating lotions were repeatedly applied to the tumour, without any decided benefit. She also took pil. hydr. and iodine. On the 2d of August, 1823, Mr. Earle passed a ligature round the right superior thyroid, which was much the largest, and nearly equal in size to the carotid. Most acute pain in the head followed, attended with drowsiness, which on the next day amounted to coma. These symptoms, however, yielded to venesection, free purging, and leeches to the temples. On the 24th the tumour had diminished three and a half inches in circumference, and chiefly on the right side, with a corresponding relief of distressing symptoms. On the 17th of September the artery on the left side was secured. Having previously resorted to leeches and saline purgatives, no alarming symptoms ensued. The menses now reappeared, and the patient shortly after left the hospital without cough, enjoying entire freedom in respiration and deglutition.

A parallel case is related in vol. v. p. 116, of the Recorder, by Dr. Jameson, of Baltimore.

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Cases of Phagedenic Ulcer, communicated by G. Babington, esq. surgeon to the Lock Hospital.—1. The patient, a female ætat. 21, was admitted with a sloughing sore, seated below the clitoris, spreading rapidly, having a dark surface; adjacent parts tumefied, and of a bright florid red. The pain was severe and constant, but greatly augmented on passing the urine. She was ordered grs. v. of pil. hydr. twice a day, and the aqueous sol. of opium to the sore. Opiates were exhibited to allay pain.

Moderate ptyalism being effected, the ulcer assumed a more favourable aspect, and a wash of nitrate of mercury and lime water was substituted. Cicatrization now proceeded regularly, until she left the hospital, being six weeks after admission.

2. A female, ætat. 20, was admitted with an extensive foul ulcer, seated near the labia, on the inside of the right thigh. Its surface very dark, and surrounded with a dark red margin, attended with severe and constant pain. This case yielded to opium, employed locally and generally.

3. The patient, a male, ætat. 24, was admitted with an extensive ulcer in the right groin, resulting from a bubo. Surface unhealthy, edges becoming jagged and irregular. There was another ill conditioned sore on the scrotum, and a primary sore on the glans. Having passed through a mercurial course, he was put on the decoct. sarsap. and a linseed poultice applied to the ulcers. The sores continued to slough, until both were united in one; the tongue dark and dry, with depressed pulse. Cinchonæ and sulph. quinine were the chief remedies now employed. Cicatrization very much retarded by great loss of skin, which was completed three months after admission.

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Four cases of injury of the head, reported by Mr. Jeffreys, of St. George's Hospital, appear to have been judiciously treated and faithfully drawn up.

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T. W. Chevalier, esq. details a case of urinary calculus removed by dilatation of the urethra, occurring in a female at the Westminster General Dispensary. The dilatation was accomplished in three and a half hours, attended with the most excruciating suffering. Incontinence of urine and symptoms of peritonitis, which ensued, were successfully combatted, and she recovered completely. The catamenia appeared for the first time, although in her sixteenth year, on the twelfth day after the operation. The stone was studded over with noduli, and measured three and nine-tenths inches in circumference.

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An interesting case of derangement of the nervous system is related by Dr. Hawkins, as treated at the Middlesex Hospital. E. S. ætat. 21, was admitted with severe headach and vertigo, which continued for three weeks, and for which she was bled twice without much relief, previous to her admission. Symptoms of paralysis shortly after began to be manifested, which however resisted active purging, leeches to the temples, cupping, blistering, and rubefacients. Various stimulating antispasmodics, and finally mercury were resorted to, with no better success. Two months after admission a seton was inserted in the nape of the neck, and she was soon after discharged much relieved. What is most deserving of notice, the left arm and leg were partially paralysed, and their natural sensibility much impaired; while the right side of the face was deficient in sensibility, and the muscular power lost. The senses corresponding with this side of the face were all affected.

This phenomenon appears inexplicable on any known principles; it has been attributed to a decussation of nervous matter in the brain, but this has never been demonstrated.

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Three Cases of Fractured Ribs; two of which were treated by Mr. Bell, and the other by Mr. Shaw, at the Middlesex Hospital. In Mr. B.'s first case there was extensive emphysema, and respiration attended with extreme oppression. The symptoms of immediate suffocation were so urgent as to determine Mr. B. on making an incision through the parietes of the thorax and puncturing the pleura, upon which the air was forcibly expelled, and instant relief procured. Although venesection was freely employed, the case terminated fatally, owing doubtless to the extensive injury sustained by the lungs and pleura.

A rapid recovery was effected in the two remaining cases, attributable to the limited extent of the injury, and the efficient depletion employed.

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Dr. Macleod communicates two cases of coma, caused by the sudden re-

cession of ptyalism. The first case terminated fatally on the third day, notwithstanding the use of local and general bleeding, blistering, and purging. In the second case, on the suppression of a profuse salivation, the patient was found in a state of insensibility, with involuntary discharges by stool and urine. In consequence of the entire failure of the plan of treatment adopted in the previous instance, it occurred to Dr. M. that if he could restore the salivary secretions he would most probably remove the stupor; nor was he disappointed, for as soon as the salivation was re-established, the patient gradually recovered his senses.

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Dr. Hewett, of St. George's Hospital, in an elaborate paper on the follicular ulceration in the mucous membrane of the intestines during fever, treats of the frequency of its occurrence, the symptoms indicative of its existence, and its management, at such length as to forbid us from entering into a discussion of its merits.

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Mr. B. C. Brodie details the history of fifteen cases of diseased testicle; out of which number there were eight of chronic inflammation of this organ, that yielded to the use of mercury. And Mr. B. concludes by observing, that when this morbid condition appears to result from employment of mercury in a particular constitution, he strongly recommends the sarsaparilla as the appropriate remedy. A case is related in illustration of this view of the subject.

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Messrs. Bell and Shaw report several cases of fractures of the femur, illustrative of the mode of treatment pursued at the Middlesex Hospital. We give an outline of the most important case.

J. S. ætat. 23, was admitted June 30, 1826, with an oblique fracture about the middle of the shaft of the femur. The soft parts sustained but little injury; the shortening considerable. Both limbs were placed over a double inclined plane, and in a few days the upper fragment was found projecting outwards, whilst the lower had retracted about an inch. The extended position was now tried, when the above displacement again occurred on each returning day.

To correct this projection outwards of the superior fragment, (caused by the action of the gluteal, psoas and iliac muscles,) the limb was placed on a double inclined plane, and carried outwards at an obtuse angle with the trunk of the body, so as to bring the lower fragment in a line with the upper. In this way the fractured extremities were retained in apposition, and the patient was discharged August 28th, without the least shortening of the limb.

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Mr. Makenzie, one of the surgeons to the Glasgow Eye Infirmary, in a valuable paper on catarrhal ophthalmia, very ably discusses the propriety and absolute necessity of a nosological arrangement of ophthalmia, in order to secure their appropriate treatment.

In the first place, he divides the ophthalmia caused by atmospheric influences into *catarrhal*, *rheumatic*, and *catarrho-rheumatic*. The first attacks the *conjunctiva*, the second the *sclerotica*, and the third is an affection of both membranes.

The first genus he divides into four species.

1. Conjunctivitis puro-mucosa atmospherica; Catarrhal ophthalmia.
2. do. do. contagiosa; Egyptian.
3. do. do. leucorrhoica; Ophthal. neonatorum.
4. do. do. gonorrhoica.

The catarrhal ophthalmia is by far the most common disease of the eye in adults. The mucous secretion occasionally becomes opaque, thick and puriform, and the morbid secretion of the meibomian glands causes the eyelids to adhere together at night. The vessels of the conjunctiva are arranged in a

net-work, and in violent cases chemosis takes place to a great extent. Mr. M. considers the sensation of sand in the eye as strikingly *diagnostic* of this form of ophthalmia.

Atmospheric changes, and exposure to cold and wet, are regarded as the exciting causes. It has also been known to prevail epidemically. Although generated in the first instance by atmospheric influence, Mr. M. thinks it may be propagated afterwards both by contagion and infection; and in confirmation relates the history of the French slave-ship Rôdeur.

The treatment is, for the most part, local and stimulating. Bleeding is seldom necessary; scarification, when chemosis exists. Purging, blisters to the nape of the neck or behind the ears. Solutions of acetate of lead or sulphate of zinc he considers highly prejudicial, and strongly recommends a solution of nitrate of silver, in the proportion of two to four grains in an ounce of water, and directs a large drop to be applied to the eye once a day, by means of a camel's-hair pencil.

As a collyrium, he directs one gr. of corros. subl. in eight ounces of water. At bed-time he advises an ointment prepared with hydr. præcip. rub. grs. xij. axunge ℥i. to be applied along the margin of the eyelids.

Mr. M. pursues a similar mode of treatment in the different contagious species of puro-mucous conjunctivitis. In illustration of the success of this method, he details twenty cases.

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A muscular man, æt. about 35, was brought to St. Thomas's Hospital June 27th, 1826, with a wound of the external carotid artery, near the angle of the jaw, on the right side. He was in a state approaching to syncope, and evidently delirious. The wound was dilated, and an abortive attempt made to discover the bleeding orifice. In this extremity Mr. Travers resolved on securing the common carotid, and accordingly cut down and passed a single ligature round this vessel. Three days after the operation the patient became suddenly and violently excited, escaped from his attendants, and leaped from a height of twenty feet. He was taken up and replaced in bed. The next morning he tore off the dressings from the wound, and it was found no adhesion had taken place. On the twelfth day the ligature came away; wound granulating, and the discharge healthy. On the seventeenth day had cold shivering. August 8th, has been for some time on the use of tonics, and walks about the ward. On the 18th Aug. hemorrhage to the amount of eight ounces, which recurred at intervals until death took place, after a fruitless attempt to secure the vessel at the bleeding orifice. On examination, the cavity of an abscess, about the size of a pullet's egg, was found under the cicatrix, from which a coagulum had been removed. A portion of the entire cylinder of the artery was insulated, both above and below. The lower orifice of the carotid was perfectly secured from hæmorrhage by a plug of adhesive matter, while the orifice above was irregular from ulceration and patulous, from which the fatal hæmorrhage had issued.

This case would probably not have terminated fatally, had not the ulcerative process been induced by the destruction of parts necessarily incident to a fruitless search after the bleeding vessel.

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In a series of experiments conducted by Herbert Mayo, esq. with a view of ascertaining the effect of securing the ductus communis choledochus, he could discover no trace of chyle in the lacteals; thus coinciding with, and confirming the results obtained by Mr. Brodie, the truth of whose researches had been controverted in Magendie's Physiology.

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Dr. M'Andrew communicates a case of chorea, occurring in a female æt. nine, which yielded to the ungt. tart. ant. applied to the head, after purging and tonics had failed.

An instance of transposition of the thoracic and abdominal viscera, is related by Mr. Rose, occurring in a patient treated at St. George's Hospital.

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Mr. King's case of hydrophobia, (communicated by Mr. Shaw,) although characterized by the peculiar convulsive spasms attendant on the case, Mr. S. on examination, finding the mucous membrane of the larynx turgid with vessels, was induced to suspect, with Dr. Latham, that it was merely an attack of acute laryngitis.

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Dr. Chambers details several cases of fever, treated at St. George's Hospital, in which he maintains the importance of free purging in combatting the primary symptoms, and where an irritative fever supervenes, depending on ulceration of the mucous coat of the intestines, he resorts to the alterative influence of mercury.

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Dr. Whitlock Nicholl presents a valuable practical paper on the prophylactic treatment of phthisis. With a correct mode of reasoning, he associates a sound and judicious practice. It is to be regretted that our limits prevent us from entering more fully upon a discussion of its merits. We therefore beg leave to refer our readers to the paper itself.

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In a paper on the external use of the ext. of belladonna, by T. Wm. Chevalier, we find much that is practically useful. A cursory view of several of the more important cases will suffice.

A gentleman had a gleet of five years' continuance, and of late had suffered from severe pain in the region of the left kidney. He had been treated for stricture, and "was directed to wear a bougie in his urethra, frequently during a walk of two miles."

Mr. C. on introducing the largest size bougie that he was allowed to use, (viz. No. 7,) discovered a mechanical obstruction at two inches from the external orifice, anterior to which a portion of the canal was so intensely irritable as to resist for some minutes the passage of the instrument, and occasion excruciating pain. Mr. C. then determined on coating the bougie with the ext. of belladonna, occasionally allowing a portion of it to remain in the urethra. By this treatment the difficulties were overcome, and he was enabled to pass bougies (of No. 14.) The pain in the region of the kidney yielded to a plaster of ext. bellad. one-third, cerat. sapo. two-thirds, with an occasional blister. The gleet was removed by astringent injections, together with one at night, composed of infus. cubebæ and ext. bellad.

A boy, æt. 14, of scrofulous habits, had suffered from severe pain in the left knee-joint, which had been bent during the last five years, and imperfectly anchylosed at almost a right angle; the condyles much enlarged, and the capsular ligament distended with pus. Although the severity of the symptoms were subdued by leeches, poppy fomentation, and other narcotics, amputation was insisted upon, to which the boy refused to submit, when the belladonna was applied, which, together with the use of splints properly adapted to the limb, the leg and thigh were brought to an angle of 150°, and the joint greatly reduced in size.

Mr. C. has employed the extract in various cutaneous affections, irritable ulcers of long standing and cancer, inflammatory and spasmodic affections of the thoracic viscera, partial acute rheumatism, &c.

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Dr. Gregory, physician to the Small-Pox and Vaccine Hospital, gives some valuable observations on the causes of failure in vaccination. As the first and most general cause of failure, he considers the use of the dry lymph of points and glasses, especially of the former. 2. An unfit lancet; it should be clean, perfectly sharp, and have a *broad* shoulder. 3. The skin should be kept *perfectly tense*, by grasping the arm firmly between the thumb and fin-

gers of the left hand. In order to secure the most complete effect, he directs six or eight punctures to be made, in a circular form, and at moderate distances. It is a matter of perfect indifference, whether little or much blood escapes. 4. In selecting the lymph, he observes, it ought to be perfectly limpid, and taken before the ninth day, when the areola begins to subside. 5. A fifth day vesicle will afford virus for only one subject; an eighth day vesicle for six or seven; and it is obvious, that the younger the lymph (fourth or fifth day) the greater is its degree of *intensity*. 6. Robust health is the best *predisposer* of successful vaccination. And the most proper age is between the second and fifth month, prior to dentition.

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Dr. Hawkins gives two cases of purpura hæmorrhagica, treated at the Middlesex Hospital. The first was managed by active and continued purging, evidently indicated by the state of the bowels and appearance of the evacuations, together with the use of dilute sulphuric acid. The second was attended with dysenteric symptoms, and severe pain in the abdomen on pressure; to relieve which leeches were twice applied, together with calomel and opium, and afterwards ol. ricini, with tinct. opii and hydrarg. cum creta, with pulv. ipecac. C., until the stools became natural, with the exception of a bloody discharge. The intestinal hæmorrhage, petechiæ and vibices yielded in less than a fortnight to the sulph. acid.

We consider it most probable that there is, in this disease, a preternatural debility of the capillaries, attended with congestion.

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A case of purpura follows next, treated by Dr. Chambers, at St. George's Hospital, and illustrative of the inflammatory form of this disease.—March 25, 1826. A female, æt. 16, was the subject of attack, purpura on the extremities —pulse full and frequent, tongue clean, bowels open, catamenia absent. The disease has continued nine months, and she attributes it to drinking cold water, when very warm. She was purged and bled repeatedly; the amount of blood taken was ℥l., head cupped and leeched twice. On examination after death, adhesions were found among the small intestines, and the arachnoid membrane was covered with a lamina of coagulated lymph.

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Some cases of fever are given by Dr. Hewett, of St. George's Hospital, for the purpose of illustrating his principles of practice, which have been already noticed.

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An interesting case is related by H. Earle, esq. exemplifying the influence of mechanical local irritation on the constitution.

The patient, a fine muscular man, ætat. 23, was admitted at St. Bartholomew's Hospital, Feb. 2, 1826. It appeared that his thigh had been fractured by a musket shot in the East Indies, December 1822, and from want of proper attention, although the ball was extracted and the limb set, repeated abscesses had formed, giving rise to a fistula, and much constitutional irritation. The bone was much enlarged at this place, forming an extensive bony case which communicated with the fistula, but was found to contain no sequestra. He had repeated attacks of acute rheumatism, followed by a well marked intermittent, which yielded to bark and ammonia. Worn out by long continued suffering and irritation, he earnestly solicited relief by amputation, which however was not acceded to, as the joint was still perfect, and the limb not much wasted. Conceiving that this state of things might depend on the presence of a foreign body, Mr. E. determined on making free incisions in the limb, whereby a large fragment of loose dead bone, with several smaller pieces, were readily extracted. The wound was dressed, and soon filled up with healthy granulations; all constitutional disturbance ceased, and the patient was discharged cured, July 11th, being the twenty-eighth day after the operation.

Dr. Webster communicates the case of a boy, ætat. 14, who accidentally swallowed a broken cherry-stone, when he was instantly seized with coughing, difficult breathing, and a sense of suffocation. These symptoms became aggravated, and there was a constant darting pain under the sternum. The stethoscope discovered its situation in the left bronchus, at the bifurcation of the trachea, thereby excluding the entrance of air into the left lung, which was collapsed. Pulse 120, small and sharp; nights very restless, and disturbed by violent fits of coughing. Leeches and blisters were repeatedly applied to the chest, and a mixture of squills, nitrous æther, ant. tart. were directed three times a day; low diet and rest enjoined. In this situation he continued, with little variation, until the sixty-eighth day, when he was seized with violent paroxysms of coughing, whereby he expectorated more than a pint of fetid pus, streaked with blood, and containing the broken cherry-stone. Extreme exhaustion followed, and he gradually recovered from that moment.

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Thomas Arthur Stone, surgeon, gives an account of three cases of polypus uteri, in which he endeavours to prove, that after the removal of firm polypi with narrow necks, although the whole of the peduncle remains behind, it will eventually be separated and thrown off by the action of the absorbents. Which, however, will be found not to occur when the polypus is of softer consistence, and is attached to the uterus by a very broad neck.

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Mr. Boyle, surgeon to the Middlesex Infirmary, details several cases of venereal chancre, treated with scruple doses of calomel; the mercurial action is kept up for some time after the healing of the ulcers, by the exhibition of the blue pill and antimonial powder. It is stated that the results have been uniformly satisfactory.

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Mr. Rose gives the history of a case of compound fracture of both legs, treated at St. George's Hospital, and occurring in a lad ætat. 14. The weather was excessively warm, and the only circumstance in the treatment worthy of notice, was the constant application of an infusion of quassia to the dressings, which were not disturbed for three weeks. By this means it was supposed the generation of maggots was prevented, and union facilitated.

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Three cases of traumatic erysipelas, attended with suppuration and various degrees of constitutional disturbance, were successfully treated by Mr. Travers, at St. Thomas's Hospital.

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Case of Strangulated Umbilical Hernia, in which Mr. Green operated successfully, at St. Thomas's Hospital. The patient, a widow, 59 years of age, and of corpulent habit, was admitted September 22, 1826. The hernia had been reducible for fourteen years. When she came in there was cold extremities; small, quick, and wiry pulse; vomiting of dark matter, having a feculent odour, and attended with singultus. It had been strangulated four days. After a failure at reduction by the taxis, the operation was performed. On the twenty-fourth day the wound was nearly healed, with every appearance of a favourable termination.

An analogous case is related in the last number of the Recorder, by Dr. Hewson.

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Two cases of Diseased Testicle, treated by Mr. Jeffreys, at St. George's Hospital. The first was hydrocele, in which, suppuration within the cavity of the tunica vaginalis, and a radical cure supervened to puncture with a lancet. The testicle was extirpated in the second case, and was found to consist of a variety of morbid structure. The diseased mass weighed one pound avoirdupois. "In the centre of the divided mass was a dark, purple-

coloured, fungoid structure, about the size of a walnut, resembling fungus hæmatodes; around this was a half-fluid substance, in appearance like softened brain or marrow; and beyond this the tumour had very much the character of scirrhus, being hard and fibrous, and it was interspersed with numerous bony spiculæ; and a number of small cysts or hydatids, varying in size from a pin's head to that of a dried bean, and containing a yellow water."

ART. VI. *The Edinburgh Medical and Surgical Journal, for October*, 1826.

A LONG paper by Henry Marshall, esq. staff surgeon, containing "practical observations regarding the inspection of recruits, &c." is not of a nature calculated to interest the majority of our readers.

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Observations on the Effects of Inflammation and Injuries upon the Humours of the Eye, by Alexander Watson, esq. These chiefly relate to the crystalline lens and its capsule. The first part of the paper is occupied with a description of the vitreous and crystalline humours, their capsules and attachments, in which the author maintains the existence of vascular connections between the lens and its capsule, from the following considerations. "1st. That no part of the animal frame is nourished in any other way but by vascular connexions. 2d. The regular form and beautiful *organization* of the lens in concentric layers. 3d. The death of the lens when sufficiently moved within its capsule to tear it from its supposed vascular connexions. 4th. When it is wounded, opacity is caused probably by enlargement of its vessels, for adhesive matter is poured out as when other parts of the body are wounded and inflamed." The foregoing observations he verifies by relating cases, of which he gives a plate representing the state of the parts. Sometimes a death and solution of the lens takes place from injury, while the capsule retains its vitality; at others the vitality of both is destroyed. Mr. W.'s observations lead him to the following very important conclusions, which ought to be attended to in performing the several operations for cataract.

"1. When it is desired to make the lens undergo solution in the aqueous humour, it is necessary to detach the lens from its vascular connexions by the operation, as well as to wound it.

"2. When the capsule of the lens is transparent, the detachment of it from its vascular connexions is carefully to be avoided, that it may retain its transparency and contract towards the ciliary processes, instead of becoming opaque and shrivelled into the centre of the pupil, which it does when so detached.

"3. That the detachment of the lens inclosed in its capsule, before opening the capsule, is carefully to be avoided, as these parts, unless imbedded in the vitreous humour, may float about in the eye unchanged."

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A case of tetanus and lock-jaw is narrated by Peter Gibson, surgeon, Edinburgh, which was successfully treated by means of opiates and stimulants, together with mercury; cold affusion was tried with manifest injury.

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A very interesting paper is selected from the Med. and Chir. Zeitung, for Feb. 1826; it is "On the Effects of Hyoscyamine and Atropia, by Dr. F. Reisinger. These substances are the alkaline principles of the hyosciamus and atropa. Dr. R. instituted some comparative experiments in order to ascertain their superiority over the extracts of these plants. The results were very satisfactory. "Hyoscyamine, prepared from henbane seed," was "found to be an extremely powerful substance for the dilatation of the pupil. A small drop of a solution of hyosciamine (gr. 1 to ℈ss. of water) was intro-

duced into the eyes of some dogs and cats; the eye was scarcely at all irritated in any case, and the pupil was so considerably widened, that, an hour after the application of the solution, only a small ring of the iris could be seen beyond the edge of the cornea; and after three hours, the pupil appeared as large as the cornea itself, without the power of vision being diminished, or any other bad symptoms being induced, even when the solution was introduced into both eyes. After three days, the dilatation of the pupil first began to diminish, and it was not before the sixth day that the iris recovered its natural state. A drop of a solution of extract of hyosciamus, containing five grains of the extract to half a scruple of water, produced in the same eyes a considerable irritation for the space of from five to eight minutes, which was shown by the secretion of tears, shutting of the eye-lids, rubbing of the eye-brows with the feet, &c.; and a much less complete dilatation of the pupil, which in dogs disappeared after six or eight, and in cats after twenty-four hours."

These experiments were subsequently repeated on the human eye with the same results. The hyosciamine obtained from the stalk and leaves of the plant, irritated the eye more, and was less efficient, than when obtained from the root. A drop of a solution made with one grain to the drachm, applied to the eye of a cataract patient seventy-one years old, produced so great a dilatation of the pupil that only a small ring of iris was visible. "The pupil continued dilated seven days, during which time the old woman could see moderately well, and no irritation whatever was produced in any part of the eye." Similar experiments with the atropia furnished analagous results. They all prove the superiority of these bases over the extracts generally used; and in all cases where it is deemed advisable to use the latter, the former will be found to possess several advantages. Dr. R. thinks "that in spasmodic affections, their internal use is preferable to that of opium."

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A case of Incontinence of Urine is given by T. Brown, surgeon, together with a description and figure of an instrument by which it was relieved. The case is singular; it occurred in a female forty years of age. After a walk of considerable distance, in very warm weather, the catamenia appeared nearly on its termination, and while much heated, she drank a full glass of cold skimmed milk, which occasioned a total cessation of the discharge, with headach and oppression of the præcordia. The headach became excruciating, and symptoms of hemiplegia occurred, accompanying an attack of amaurosis in the left eye. Under these circumstances, copious local and general bleedings, blisters, and purges, afforded considerable relief; the affection of the eye remained, and the menstrual discharge did not return at the accustomed period. By Dr. B.'s directing his attention to its restoration, a reappearance took place in six months, but the catamenia were small in quantity, irregular, and preceded and accompanied with considerable pain. Two years after the first attack, she was, after exposure to cold, seized with symptoms of local inflammation in the hypogastric region towards the left side; every exertion was made to subdue it with but partial relief: suppuration, or some organic lesion, had probably taken place in the pelvis. Some months after, a considerable quantity of bloody matter was discharged by the vagina and rectum, with great relief, and a reappearance of the menses, which had been absent some months. This discharge of bloody matter "came and went to a greater or less extent, and in two or three months incontinence of urine occured," which was very distressing, and did not yield to the ordinary means of relief. Presuming that it might be owing to a preternatural communication between the bladder and vagina, the consequence of sloughing, a catheter was introduced; but, on, examination, no such communication was discernible. It now appeared probable that the matter, supposed to have been discharged from the vagina, had come from the bladder; and Dr. B. was satisfied that some bulky body existed, which could be

felt distinctly pressing downwards, and occupying a considerable space in the lower part of the pelvis. This was thought to be "the cause of the incontinence, or that the sphincter vesicæ, or the structure of the urethra itself, was affected." To relieve this distressing symptom, he constructed an instrument which completely answered the purpose; the material was bone; it was "four inches and a half in length—at its point, exactly of the dimensions and structure of the old female catheter, that is, it was both round and straight, and as it proceeded upward it gradually enlarged, until it became rather more than double the size, and then abruptly, but obtusely, again assumed its smallest size. The distance between this change of shape, and the point, was fully three inches. The remaining part was terminated by a trumpet mouth, with a silver stopper, at least half an inch long, and firmly fitted." The patient could use it herself with readiness, and it remained steadily in the bladder in every exercise or motion, without the least assistance. It was worn almost constantly, day and night; and the most complete relief was afforded, being enabled to retain the urine without inconvenience, until it exceeded half an English pint.

A case of Double Inguinal Hernia on the same side, by Hugh Fraser, surgeon, Gibraltar.—The operation for inguinal hernia had been performed, and the hernia, to all appearance, reduced. The patient however died, when the following state of things presented on examination, two hours after death. "A portion of ileum, about eight inches from its termination in the colon, was found strangulated at the inner ring;" the sac "had every appearance of being of long standing." Below the internal ring, or rather the opening of the sac, "and separated from it by a bride a line in breadth, the peritoneum formed three or four very loose transverse folds, and the finger could easily be passed up from the wound on the *mesial* and *central* aspect of this hernia, so as to protrude in the abdomen, and raise the loose folds of peritoneum before it." From this it would appear, that the hernia reduced in the operation had protruded at this point, and the sac containing the ileum had not approached nearer the external ring than the place it then occupied. "This was clearly an example of double rupture, where both commenced at nearly the same point, and both observed the common *dermal* relation to the spermatic and epigastric vessels."

It is a rare form of this affection, but at the same time it is an important one, and it should "direct the attention of junior operators to a state of parts, which they may, in cutting for hernia, occasionally expect to meet with," and which may cause a case to terminate fatally, which had, in every other particular, promised a favourable issue.

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Some interesting cases of preternatural apertures, by James Sym, surgeon, Kilmarnock, are offered to our notice.

Case I. *Mesocolic Hernia.*—J. K. aged sixty-five, was awakened with a violent pain in his bowels, most intense on his left side, stretching across the umbilicus; inclination to go to stool; no evacuation; efforts aggravated the pain. Hot fomentations and a sinapism were employed, with considerable mitigation of the symptoms. He slept a little, but in a couple of hours pain as severe as ever; pulse natural; skin cool; no vomiting; pain alleviated by pressure: bled to ten ounces; opium pills, calomel, and James's powder, after which the pain subsided in a great measure: it was renewed again at night, though not as intense as before; and through the day uneasiness, without any violent pain. Six ounces of blood abstracted, which, like that taken the day preceding, was neither buffy nor cupped. Calomel, castor oil, and a purgative clyster, proved ineffectual; two other clysters were administered, during the injection of which he suffered severe pain, and they produced scanty discharges. The day following, pain left the abdomen completely, to which succeeded heat of stomach and vomiting. On examination, no hernial tumour could be discovered; abdomen neither tense nor tender upon pressure; suffers greatly when injections were used—they were omitted; blisters to the upper part of the abdomen. On the third day stercoraceous matter was vomited; stomach very hot; no pain or fever; vomiting uncontrollable by effervescing draughts, carminatives and opiates. On the fifth day his bowels "relaxed spontaneously, and discharged large quantities of a tarry matter," after having withstood the action of calomel, colocynth, and croton oil, for several days: sank rapidly, notwithstanding the use of cordials, and died on the eighth day after the attack.

Dissection.—Stomach and small intestines much inflated, slight vascular streaks on their surface. "In the left epicolic region, the sigmoid flexure of the colon passed over a dark-coloured tumour, which was found to consist of a loop of ileum six inches in length, the blood vessels of which were in the highest state of injection, but did not appear from its texture to have become gangrenous." It had passed through a round aperture half an inch in diameter, which penetrated both the layers of the mesocolon, the margin of which was a circle well defined, and sufficiently firm to allow a finger to be thrust forcibly into it without tearing. The necks of the gut were com-

pressed by this ring, were much narrowed, and the portion which had passed through, contained flatus; and its mucous membrane was very red; no ulcer visible; coats of the intestines more readily ruptured than usual; gall bladder filled with an "almost black fluid, resembling dark coloured blood;" it produced a yellow stain on linen. In his concluding observations Mr. S. remarks, that "after the inflammation had proceeded so far as to overcome the muscular powers of the the strangulated portion, its neck became sufficiently relaxed to yield to the *vis a tergo* of the sound intestines, and black bile was transmitted in large quantities.

Case II. Of perforated stomach, connected with dyspeptic symptoms, is interesting but we pass over it, in order to give a fuller account of

Case III. *Phrenic Hernia.*—A male infant, twenty-three months old, was amusing himself with an onion, sitting upon the steps of a stair, and in perfect health. The onion being taken from him, he began to cry; got up and followed his mother into the house; was appeased for a few minutes, when the crying was violently renewed. "With one hand he held up his frock, and directed his mother's attention to his stomach, as if he felt pain there, whilst with the other hand he pointed into his mouth; he was suspected to have swallowed an onion unobserved. This paroxysm of crying continued nearly on hour, tossing himself violently in every direction; ascertained that no onion had been swallowed; pulse and breathing were rapid; lips livid; countenance red, though it was livid at the commencement; abdominal muscles rigid; bowels seemed flatulent. Warm bath ordered, which did not induce faintness; agitation and crying immediately subsided.

His bowels evacuated by an enema, after which ten drops of laudanum. In the evening no return of crying; less distress; inclined to lie on his belly, and seems exhausted; pulse feeble, 160; lips still somewhat livid; cheeks red; "mouth encompassed by a striking paleness," being defined abruptly from the red of the cheeks. Suspecting worms, calomel at night, and an enema in the morning were ordered; bath repeated at bed time; no worms; next morning less distress; did not cry. His countenance presents the same singular appearance, indicative of gastric irritation; had ground his teeth incessantly during the night, which he was never observed to do before. When interrogated, pointed down his throat. Retched, but did not vomit. Fully persuaded of the presence of worms, oil of turpentine ordered immediately, and in two hours an emetic.

He became much oppressed, began again to toss and cry, and died in an hour after taking the emetic.

On dissection, it was found that "the whole of the stomach, from the pylorus to the cardia, with the exception of a small portion, to which the spleen was attached, had slipped into the *thorax*, carrying along with it part of the omentum." It was distended with air. The aperture in the diaphragm was situated about an inch from the foramen of the œsophagus, to the left, and a little further forward from the spine. "It was about two inches in diameter, and a well defined circular margin anteriorly; but posteriorly, the omentum originated a short way within its lip from the pleura of the diaphragm.

"Behind the posterior margin, the pleura was continuous with the peritoneum of the great omentum, which presented a valvular arrangement, shutting up completely the aperture when the greater curvature of the stomach ascended towards the ribs."

Mr. S. observes, that there can be little doubt of this mal-formation being congenital, and that the hernia of the stomach occurred only 24 hours before death.

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Three cases of Cæsarian section, and one where the entire uterus was extirpated, are selected from the German journals; they all terminated fatally.

A case of an osteo-sarcomatous tumour is related by John Lizars, surgeon, in which he removed the greater portion of the lower jaw bone; the patient recovered from the operation, but what was the final result we are not informed.

ART. VII. *The Edinburgh Journal of Medical Science, Nos. 3 and 4, for July and October,* 1826.

IN an elaborate paper on spasmodic constriction of the alimentary, biliary, and urinary passages, by Dr. Alexander Monro, we discover much valuable matter.

After describing their anatomical structure, he terminates the chapter, by observing that Mr. J. Hunter, Mr. Wilson, and Sir E. Home entertain no doubt as to the existence of a muscular coat in the urethra; yet he was unable, after the most minute examination, to detect muscular fibres except in the membranous portion.

Mr. M. treats of spasmodic contraction, as varying in extent, degree, and duration; and when of long duration, he thinks it may result in permanent organic stricture.

When much pain and irritation exist, venesection and the tepid bath should precede the use of antispasmodics. If the spasm occupy the neck of the bladder, ureters or urethra, he directs leeches to the perineum, warm emollient clysters, and demulcent drinks, as flaxseed tea. Mr. Cline employs the tr. muriat. ferri, in doses of gtt. x. every ten minutes, until relief is afforded. Large doses of camphor exercise a powerful influence over spasmodic affections. It is scarcely necessary to allude to the employment of blisters, electricity, bougies, catheters. In the employment of the last mentioned instrument, Mr. Hey, of Leeds, very correctly observes, that "when any obstruction occurs, the design of the surgeon should be to evade, rather than overcome it. Unsuccessful attempts may render a case extremely difficult which was not so before."

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William Shanahan describes a number of selected cases of apoplexy, among which we recognize three that possess the usual character of apoplectic seizure; apoplexy associated with epilepsy in two cases; and the remaining four illustrate its complication with bronchitis, which greatly augments the violence and intractability of the case, and renders the treatment exceedingly complex and embarrassing. The treatment consisted, for the most part, in active and continued depletion by venesection, blisters, and purging.

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Dr. James L. Bardsley communicates a very interesting case of paruria mellita. The urine voided in twenty-four hours, amounted to nineteen pints. He was ordered to abstain from vegetables, and to live solely on animal food, and to use the *potus acidi nitrici* in the proportion of two drachms of diluted acid to three pints of water.

He continued to improve daily, and was discharged in about six weeks. He was, however, re-admitted six weeks after, his disease having returned in consequence of being driven by poverty to feed on bread, cheese, potatoes, &c. A different plan of treatment was now adopted, and one hundred and sixty ounces of blood was taken from the arm at intervals of two and three days. His system became prostrated, attended with a manifest increase of diabetic symptoms.

At this period the animal regimen was again recurred to, and was attended with the most signal benefit. Dr. B. concludes by introducing to our notice a

second case, in which the animal regimen was unsuccessfully and even mischievously employed.

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A case of empyema, resulting from mal-treatment in acute pleuritis, is related by William Donaldson, surgeon. The symptoms were extremely urgent, as laborious respiration, pallid, anxious countenance, cold, clammy sweat, and on examination a puffy swelling was discovered on the left side, extending from the third to the seventh ribs, and from the edge of the scapula to within three inches of the sternum. Mr. D. was convinced that this side of the chest was full of fluid, and therefore resolved at once on the operation of paracentesis. An incision of an inch and a half was made along the upper edge of the seventh rib, and midway between the spine and sternum; when suddenly pus issued with great impetuosity, and in the course of three days it amounted to nearly twenty-three pounds. The patient completely recovered.

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W. Gordon, surgeon, gives some practical remarks on the tr. colchici, in chronic rheumatism. After alluding to the causes that have tended to bring it into disrepute, and destroy the confidence that was once reposed in it, Mr. G. proceeds to describe the case in which it is applicable, viz. when the pain is *always increased* by motion or cold, but *invariably* relieved by the application of warmth. He prescribes it in the dose of one or two drachms three or four times a day, which seldom fails to act freely on the bowels and procure immediate relief.

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Three cases of hemorrhea are detailed by J. Craig, Esq. surgeon. C. L. ætat. fifty-four, underwent an operation for fistula in perineo, communicating with the rectum, and on the fifth day following, voided a quantity of coagulated venous blood, recurring at intervals, in all amounting to four pounds. It was eventually arrested, and he recovered.

The second case resulted from the extraction of a front incisor of the upper jaw. The bleeding was very profuse, and syncope occurred several times; the blood was arterial, and came away by a rapid succession of large drops. By the application of lunar caustic to the whole socket, and a lint plug, the hemorrhage was commanded.

The last case was that of an infant, ætat. seven months and a half, whose gums had been scarified, and an alarming degree of exhaustion ensued from hemorrhage, which, however, yielded to a free application of lunar caustic, and a stiptic solution.

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A case of femoral aneurism, in which a ligature was placed on the external iliac, is communicated by Robert Allan, Esq. The patient lived only six days after the operation. As the natural heat and circulation had returned in the limb, and the aneurismal tumour was rapidly subsiding, with but slight constitutional irritation, until the day preceding death; moreover, as nothing appeared on dissection to explain its fatal issue, to what cause, inquires Mr. A., shall we attribute its unfortunate termination, unless to the absence of stimulus, to which she had been long accustomed.

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A case of intestinal strangulation, terminating fatally in ten days, is reported by Joseph Brown, M. D. On dissection, it appeared that the vermiform appendix adhered firmly to the mesentery, thus forming a noose round a portion of small intestine, and causing its strangulation.

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Case of curvature of the tibia, occurring after the receipt of an injury, in a child affected with mesenteric disease, by R. Arrowsmith, Esq.

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Case of strangulated hernia of five days' continuance, reduced by an ope-

ration by M. Priou. The patient recovered after the existence of singultus and stercoraceous vomiting.

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Case of congenite ulcer on the cranium of a fetus, terminating in fatal hemorrhage on the eighteenth day after birth, is reported by Dr. W. Campbell. In less than three years afterwards the same woman was delivered of a healthy male child, after an easy natural labour, when an ulcer was observed on its head, very similar to that in the former infant. Cicatrization was completed in several months, and the little sufferer died eventually of hydrocephalus at the age of eight months.

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Mr. Alexander Turnbull, in a very elaborate and excellent paper on the nature and causes of inflammation, arrives at the following conclusions:

1st. There is no circumstance common to all inflammations, except distention of the capillaries.

2d. Acute inflammation consists in a distention of the capillaries, with or without debility, and an increased action of the arteries leading to them.

3d. Chronic inflammation consists in a distention and debility of the capillaries, without increased action of the arteries leading to them.

4th. A number of morbid phenomena, which I have denominated sub-inflammations, exactly resemble true inflammation in their nature, and require the same remedies, but are not characterized by the symptoms of increased heat, redness, and swelling.

5th. The velocity of the blood's motion in the capillaries is diminished in all chronic inflammations; and is sometimes increased, at other times diminished, in acute inflammations.

6th. Hemorrhagies are of exactly the same nature, and are to be treated on the same principles as inflammation.

7th. The most important and general principle to be kept in view in the treatment of inflammation is, that acute inflammation must be treated upon the antiphlogistic plan, and chronic inflammation with stimulants, tonics, and astringents.

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Case of uterine hemorrhage, successfully treated by transfusion, is related by William Brigham. Although cases of this description have been greatly multiplied of late, we consider it as valuable, and going to corroborate the utility of a measure once abandoned as useless, again revived under more favourable auspices.

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Dr. A. Monro furnishes additional observations on spasms of canals, in a letter communicated to one of the editors, by R. Allan, Esq.; in which Mr. A. relates the history of a case of lithotomy where spasmodic contraction of the bladder ensued, and rendered the extraction of the stone very difficult.

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Dr. Joseph Brown gives a case of sphacelated urethra *fully three inches in extent*, which was *almost entirely regenerated in the course of a month.*

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William Donaldson, Esq. gives a case of poisoning from henbane, used in an infusion of hyssop; relief was obtained by active emetics.

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Dr. Gairdner gives a case of disorganized stomach in an infant.

For an account of this case, see review of the Medico-Chirurgical Transactions of Edinburgh, in the present number.

We have ourselves attended a case essentially analogous to the one above described. The child was not weaned, and the disease continued with slight alternation of symptoms to its termination. What was remarkable, the child fed with avidity to the last moments of its existence. On dissection, six hours after death, the only morbid alteration apparent, was the perforation

of at least one-third of the splenic extremity of the stomach, its coats reduced to a pulpy gelatinous state, and hanging in shreds, with partial effusion of its contents.

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An interesting case of vicarious menstruation is reported by Dr. T. Barnes. The patient, ætat. thirty, had hemoptysis at the age of nineteen, having always before this period menstruated with pain and difficulty. Venesection, blisters, and mercury were employed; when five years had elapsed with various alterations in the state of her health, an extraordinary change occurred. She was suddenly seized with a most excruciating pain in her head, when a serous discharge, colourless, insipid, and inodorous, issued from the right ear. It was supposed there was from ten to twenty tea-cupfuls discharged during the ten days of its continuance. Narcotics, antispasmodics, and leeches to the head, were employed during the paroxysm. To re-establish the uterine secretion, frictions of the lower extremities, pediluvia, sinapisms, aloëtic purgatives, &c. were vigorously employed. The pain in the head, and discharge from the ear, gradually ceased. A sense of fulness and constriction of the chest continued to return periodically, which, however, yielded to repeated abstractions of blood from the foot, and an issue opened in the leg.

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John Kesson, surgeon, gives the outlines of a case of encysted abdominal dropsy from diseased ovaria. The patient had miscarried repeatedly at the end of the third month. When, on the first of October, 1825, paracentesis was performed, and thirteen quarts and a half of fluid were removed. Digitalis and blue pill were administered, but the fluid again collected, and on the following February she was delivered of a seven months fetus. The mother died on the twenty-ninth of June. Why abortion did not ensue from the evacuation of so large a quantity of fluid, and the exhibition of such medicines at the period when she used to abort, we conceive might be readily explained by the removal of the superincumbent pressure the uterus had sustained.

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Three cases of epistaxis, communicated by Dr. R. M. Kerrison. After alluding cursorily to the agents usually employed to arrest hemorrhage, where ligature and direct compression are inadmissible, he proceeds to detail the cases in which he succeeded in controling the most formidable flow of blood, by plugging the posterior cavities of the nose by means of a simple contrivance. This was effected by attaching a piece of twine to a dossel of lint steeped in a solution of alum. A very small bougie, having also a piece of twine tied to one end, was introduced into the nostril, previously curved, and passed onwards until the string appeared below the *velum palati*. The two strings were then tied together and the bougie withdrawn until the lint arrived at the anterior nostril. The bleeding vessels were thus effectually compressed.

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Mr. Benjamin Bell communicates additional remarks on the utility of camphor and hyosciamus in chordée, ardor urinæ, and chronic irritation of the neck of the bladder and prostate.

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John Shaw, Esq., surgeon of the Middlesex Hospital, records a case of lithotomy, attended with fatal hemorrhage. The patient was very corpulent, and two calculi were readily extracted. The operation was completed in three or four minutes. The hemorrhage followed the division of the prostate, and on dissection it was found to depend on the irregular distribution of the dorsal artery of the penis, which, coming off from the internal iliac, coursed along side the bladder and prostate gland, and hence was unavoidably cut.

Further evidence of the efficacy of camphor and hyosciamus in gonorrhœa, is adduced by a private correspondent.

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Case of aneurism at the bend of the arm, resulting from venesection, in which a cure was effected by securing the humoral artery, by Mr. Dalziell.

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Case of necrosis, by Robert Wiseman, surgeon, to which is added some important reflections on the formation and reproduction of bone.

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Dr. James Hamilton furnishes some observations on modified sore throat, invading childhood, and running its course rapidly to a fatal termination. It commences in the form of a white spot on the tonsils, which gradually enlarges with florid edges: a slough forms; there is difficult deglutition, and increase of fever. To these symptoms are occasionally added offensive breath and the sudden occurrence of cynanche trachealis, supervening on the sixth day of the disease. The sugar of lead was successfully employed both internally and in the form of gargle. The author is disposed to regard it as infectious.

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Dr. Wise communicates a case of retroverted uterus, attended with hectic fever and extreme emaciation, which continued in this condition until the seventh month of gestation, when it was reduced, and the delivery safely accomplished. The woman sunk on the fifteenth day, doubtless from constitutional irritation induced prior to delivery.

To which is subjoined some judicious observations in continuation of the same subject, by William Campbell.

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Mr. G. Bell describes a case in which twenty-eight calculi were extracted from the bladder by means of a pair of curved forceps, having concave blades, which are formed into a bulb near its extremity, and serves to dilate the urethra. It is provided with a stilette, which when retracted separates the blades.

ANALECTA.

1. *Kirronosis.*—A new medical journal, which promises to be of a superior character, is just established by some of the first medical men of Paris. The work is in quarto, and the first number contains about 100 pages. It is intended to come out every three months, under the name of Répertoire Général d'Anatomie et de Physiologie Pathologique, et de Clinique Chirurgicale, &c.

Amongst the articles in the first number, is a short paper by J. F. Lobstein, of Strasbourg, on kirronosis. By this name the author distinguishes a remarkable affection of the fœtus or embryo, in which the serous and transparent membranes acquire a bright yellow colour. It is an internal jaundice, affecting the arachnoid, the pleura, the pericardium and the peritoneum, but leaving untouched the ordinary seats of icterus, as the skin and the cellular tissue. It was first noticed in an embryo of five months. The peritoneum, especially where lining the posterior part of the abdominal parietes, was of an intensely yellow colour—that investing the intestines was less coloured. There was no effusion into the cavity, and the viscera themselves were healthy. In a second embryo of the same age, the abdomen presented a similar appearance, but in this instance the yellow colour also existed in the pleura, the pericardium, the arachnoid and dura mater, and in the thyroid gland. Lobstein has subsequently not only met with the same affection in the human fœtus, but has also had occasion to observe it in two embryo foals. A more careful examination showed that the brain, the spinal cord, and also the nerves, participated in the morbid appearance. The sympathetic nerves, in particular, were very conspicuous, in the form of yellow lines passing by the sides of the spinal column. The affected parts appeared to be somewhat swollen, being larger than the portions immediately above and below them. The colouring principle in kirronosis does not seem to depend on any infiltration, but to be inherent in the tissues themselves. No adventitious matter could be detected by the aid of the microscope, yet the medullary matter of the spinal cord appeared to consist of two substances, the one of a bright citron colour, in the form of very minute grains, imbedded in the other, which was white and semi-transparent, and of a pulpy consistence. Long maceration in water, or alkohol, produces no change in the colouring principle. In preparations which have been in spirits seventeen years it remains perfectly fresh, except in those spots which have been directly exposed to the light, which are a little faded.

Professor Lobstein is undecided as to the cause of this singular appearance. Having seen it as early as the third month, he cannot attribute it to the bile, which is not secreted at that period.

Kirronosis must not be confounded with an icteritious affection, sometimes met with in the fœtus, when produced at the full time, in which the cellular membrane is infiltrated with a yellow fluid. Lobstein relates a curious case of this kind, which co-existed with a complete disorganization of the cerebellum, the exterior of which was of a deep red, and formed a cyst of about the twelfth of an inch in thickness, containing a yellow albuminous matter, compared to an egg, after the yolk and white have been intimately mixed.

2. *Ligature of the Subclavian Artery.* By Baron Dupuytren.—*Case.* Charles Lechevalier, 37 years of age, formerly a soldier, entered the Hotel Dieu on the 27th February, 1819, for a false or consecutive aneurism of the left axillary artery. He had been wounded in the shoulder of that side, while serving in Spain, in the year 1811. The wound was made by a pointed instrument, but healed in three weeks. Two months afterwards, however, he perceived a small tumour in his arm-pit, attended with pulsation, and in the course of two years' captivity, it had acquired the size of an egg, and the pulsations were become very strong. After a long and toilsome march of 900 miles back to France, the tumour rapidly increased, and soon reached the size of a child's head, completely preventing him from following any occupation. On this account he came to Paris, and entered the Hotel Dieu.

The cicatrix of the original wound in the upper and posterior part of the shoulder was still visible. The aneurism was now the size of a child's head of 12 months old. It was unequal on its surface, and covered with large veins, shining, tense, and throbbing in unison with the heart. There was numbness of, and no pulsation at the wrist of that arm. The pulsations of the subclavian artery, however, were very strong, and pressure there stopped the beating in the tumour.

Nothing but the ligature presented any chance of saving this man's life, and the question arose, whether it should be applied *citra vel ultra tumorem?* Baron Dupuytren does not appear to entertain a favourable opinion of the method lately practised in this country by Mr. Wardrop. The course of the subclavian artery on the left side may be divided into three portions—from its origin to its entrance between the scaleni muscles—its passage through these muscles—and its course to and over the first rib. The second portion of its course was selected by the Baron, for several reasons, among others, because the artery is here separated from the vein, and also from the plexus of nerves. Besides, the anterior pillar of the scaleni is a sure guide to the artery.

The patient being prepared for the operation, an incision was made in a slanting direction, an inch above the clavicle, through the integuments, by which some vessels were divided that required tying. The incision was then continued—the scalenus sought and found—and this muscle divided close to its insertion by a bistoury. The artery was thus easily laid bare, and its pulsations could be stopped by pressure of the finger at the bottom of the wound. A bent silver probe with an eye armed with a triple silk ligature, was passed under the artery, the other end brought out—the cord tied—and all flow of blood through the vessel arrested. The drawing of the ligature did not cause any pain in this operation, which circumstance is attributed, and probably with justice, to the situation which was selected for securing the artery. M. Dupuytren did not adopt the common continental practice, on this occasion, of placing a spare ligature ("Ligature d'attente") on the vessel. There was no hæmorrhage—the wound was simply dressed—and the patient put to bed. In the course of the day he complained of some pain in his throat, and he was bled by way of precaution. The night was tranquil—the arm preserved its temperature and usual sensibility—there were some dartings in the tumour. The second and third days were passed in the same favourable state, and the patient semed as if he had not undergone an operation. At the end of six days, the tumour was considerably diminished, and the patient had experienced no inconvenience. He had no motion the while, and a purgative was administered, (an ounce of castor oil,) which cleared the bowels. On the 11th day, the ligature came away, without any discharge of blood. By the 17th day, the wound was contracting, the suppuration diminishing, the tumour was reduced one-third, and offered no pulsation. By the 30th day the wound was cicatrized, the patient began to use his arm, the tumour was daily decreasing; but it presented symptoms of suppuration. Cold astringent applications were used. By the

78th day the tumour was reduced to one-fifth its former volume, and was still getting smaller. All symptoms of suppuration had vanished. The heat, sensibility, and the mobility of the member were now nearly the same as in the other arm. The arteries at the wrist, however, as might be expected, presented no pulsation, although they felt full of blood.

The man was discharged from the hospital, and took to his usual occupations, which he pursued for three years, without the least inconvenience, till some heavy labour determined an inflammation in the arm-pit, for which he again entered the Hotel Dieu, on the 16th July, 1822. On examination, a tumour, the size of a man's fist, was found in the arm-pit, the integuments being inflamed and attenuated, and the swelling pointing and threatening to burst. It did not pulsate—the patient had had shiverings. Cataplasms were applied, and, in a fortnight, it burst spontaneously, and discharged a large quantity of matter of a peculiar kind. The symptoms now declined rapidly, and the man was soon discharged from the hospital perfectly cured. He has since remained well.

We cannot help expressing our conviction that the place which Dupuytren selected was the very best that could be pitched upon for securing the artery. When we read the descriptions of this operation, as heretofore practised—the diggings, the scoopings, the tearings, and the hæmorrhages, and compare all these with the simple and successful operation of the Parisian Cooper, we cannot withhold our meed of applause for the ingenuity with which the operation was devised, and the dexterity with which it was executed.—*Johnson's Journal for January*, 1827.

3. *Some rare cases in Surgery*, by Prof. Scarpa.*—Although not very partial to extraordinary cases either in physic or surgery, yet all such cases are worthy of record, since they may prove landmarks or beacons, on future occasions, where we are in doubts and difficulties.

Enormous collection of milk in the Mamma.—Case I. A young female peasant, of small stature, but robust constitution, perceived, ten days after a second accouchement, a considerable swelling in the left arm-pit not preceded by any inflammatery symptom, or pain. She continued to suckle her infant from both breasts—but more especially from the left, in the hope of dissipating the swelling; but the effect was quite contrary to her expectations, for the flow of milk from that breast daily diminished, while the tumour in the axilla increased. This tumefaction gradually extended to the mamma, and at last occupied the whole of it. In the course of two months the breast got to such a size that it measured 34 inches in circumference, and, when sitting, the mamma rested on the thigh of that side. The skin covering this tumour presented no particular alteration in appearance, except that it was rather tense and shining, the subcutaneous veins being dilated. Professor Scarpa thrust a middle-sized trocar into the tumour near the axilla, where the integuments appeared thin. A flow of pure milk followed, and ten pints were drawn off in a continued stream. The celebrated Dr. Frank was present at this operation, and was not a little astonished. When the milk was evacuated, the mamma was scarcely more voluminous than the other. The wound made by the trocar was enlarged, and a tent introduced, for the purpose of facilitating any subsequent discharge. The milk was sent to M. Scopoli, professor of chemistry, and its analysis showed that, notwithstanding the long sojourn of the fluid in the breast, it differed in none of its physical or chemical properties from the recently secreted milk of a female.

The obliteration of the cavity where the milk was lodged could not be effected till a seton was established there. The cure was ultimately complete.

A foreign body in the Rectum.—Case II. A young peasant, habitually constipated, experienced, at one time, so much inconvenience, that he intro-

* Opusculi Chirurgia, vol. ii.

duced into the rectum a reed stalk, for the purpose of mechanically assisting the evacuation of the hardened fæces. It had the desired effect; but in the second introduction, the reed stalk escaped from his grasp, and went up beyond his reach. All the straining and violent efforts which he made to eject the foreign body were in vain, and he was soon in great agony. He was carried the next day to the hospital, where the surgeon on duty made some fruitless attempts to extract the offending body. He then gave him a purgative. The succeeding day Scarpa saw the patient, and, on careful examination of the abdomen, discovered the piece of reed in the *right* iliac region, where the least pressure occasioned great pain. In the evening of the same day the extremity of the reed was found to have stretched over towards the *left* iliac region, showing that the foreign body had a tendency to pass up the colon.* In the course of the night it got into the sigmoid flexure, and by the next day, when Scarpa made his rounds, the reed had got into the transverse arch of the colon, and was just lodged under the ensiform cartilage of the sternum. Scarpa thought it would now soon reach the cæcum; but by five o'clock in the afternoon it had retrograded to the hollow of the left ilium, where it was very prominent. Scarpa now placed the patient in the position for lithotomy, and introduced a very flexible gum elastic catheter, the size of the ring-finger, till the point reached the sigmoid flexure of the colon. The wire of the catheter was then introduced to keep it steady. By means of the fingers of one hand on the abdomen, and by manœuvring the point of the catheter with the other, he managed to bring the reed into a position parallel with the line of the gut, whereas it appeared to him to be lodging obliquely across the passage. By thus keeping it in a proper position, and pressing gently on its upper extremity, through the parietes of the abdomen, he enticed the reed down within reach of the finger in the rectum, and then easily extracted it with a pair of forceps.

The Professor remarks that this case leaves no doubt of the *anti-peristaltic* motion of the colon—a fact which indeed has long ago been proved by the disappearance of injections from that gut, and by their being vomited by the mouth.

The above case bears considerable similitude to the case related some 17 years ago by Mr. Thomas, of Leicester Place, and with which most of our readers, perhaps, are acquainted. The patient was a gentleman habitually costive, and who was in the habit of daily introducing a piece of flexible cane, the size of a finger, into the rectum, and there leaving it till the nisus for evacuation took place. One day, however, it escaped out of reach. Nevertheless the motions passed regularly, and it was seven days after the accident, when Mr. Thomas saw him. He was then labouring under symptoms of abdominal inflammation, and was in great distress. No part of the cane could be felt per anum, but one end of it was very evident, projecting midway between the ileum and umbilicus on the *right side*. The part was extremely sensible. An anodyne enema was first administered, and two hours afterwards Mr. Thomas was enabled gradually to introduce the hand into the rectum, and in 20 minutes extracted the cane. It was nine inches in length, and one of its extremities very ragged and uneven.

The venerable Professor relates, in the same volume, two cases of sanguineous tumours removed, one from the upper lip, the other from the palatine arch. The former was a nævus maternus, the latter had been growing for a great many years. Considerable hæmorrhage succeeded the ablation of these tumours, but was arrested by pressure and styptic applications.

* There seems to be some obscurity here. One would have expected that the first appearance of the foreign body would have been in the *left* iliac region, in its way to and through the sigmoid flexure of the colon. It is probable, however, in this case, that the rectum lay more towards the right than the left side of the sacrum.

4. *Want of a Pericardiam.*—There are many cases on record where the pericardium is said to have been wanting; but, as most of these observations were made at a time when inflammations of the heart and its envelops were not much known, it is supposed that many of the cases related by authors, were those of adhesion between the free and reflected sheets of pericardium. This may be true; but still, to assert with Haller, that this error was always committed, is not in accordance with M. Breschet's experience. The following is one of M. Breschet's reasons for questioning the scepticism of Haller.

Case I.—A young man, 28 years of age, tall and thin, enjoying habitual good health, was received into the Hôtel Dieu on the 5th Dec. 1825, for a severe intestinal inflammation. He evinced no symptom of any affection of the chest, functional or structural. The abdominal inflammation resisted every measure, and the patient died three days after he was received into the hospital. The symptoms were those of acute dysentery.

Dissection.—The coats of the intestines were found thickened and ulcerated. There was no trace of pericardium, the heart appearing free in the left side of the chest. The heart, lungs, and large vessels were carefully taken out, and laid before M. Breschet, who examined them with the greatest care, and avers that the pericardium was completely wanting. It was supported in its place entirely by the vessels which arose from it. The preparation was presented to the Philomathic Society, and examined by many anatomists, all of whom concurred in the statement of Breschet.

Our author cites several cases from former writers, and especially the case related by Dr. Baillie, in support of the opinion which he has given in opposition to Haller.—*Ibid.*

5. *Remarkable Case.* By C. Muller.—*Case.* A corporal in the Sleidgwick Cuirassiers, while assisting a man in putting up hay into a loft, fell back on the ground, and, on being raised, it was discovered that he had lost the power of his upper and lower extremities. Surgeon Muller was called to his assistance in half an hour after the accident, and found the soldier pale, but sensible and powerless. The circulation and respiration were unaffected; but the lower half of the body was dead. Feeling was extinct in all parts of the body. There was no external wound; but the man had evidently fallen with his back across a cylindrical block of wood. M. Muller could not ascertain whether or not the spine was luxated. Blood-letting was practised, and a purgative exhibited. In the night, the patient was agitated and delirious. Next morning, he talked rationally, and he was more animated in his countenance; but the pulse was feeble, and he felt convinced that he was dying. He died a few hours afterwards.

On examining the spine, blood was found extravasated between the muscles and the vertebræ, as also into the theca vertebralis, from the sixth cervical to the ninth dorsal vertebra. The brain was perfectly sound, as were all the other viscera of the body.—*Ibid.*

6. *Incontinence of Urine.*—M. Samuel Lair read lately to the Academy of Medicine a memoir on this subject. He refers most cases of incontinence of urine to a want of equilibrium in power between the body of the bladder and its neck—the latter being in an atonic state. The failure of tonics, in these cases, he attributes to their acting equally on all parts of the bladder. He therefore imagined that, if he could stimulate the neck of the bladder and not the body, he might have better success. With this view, he introduced, by means of a catheter, tincture of cantharides so as to touch the urethra in its prostatic part, and also the neck of the bladder. By this process he cured three patients who laboured under incontinence of urine.

Ibid.

7. *Fistula in Perineo, cured by Operation.*—Mr. White, of the Westminster Hospital, has lately been successful in a bad case of the kind. The patient had been in two or three hospitals previously, for a fistula in perineo, occasioned originally by a wound in that part. Mr. White introduced a staff as

far as the stricture surrounding the opening, and then cut down in a line with the original direction of the urethra, till the whole of the strictured part was laid open. A gum catheter was then introduced into the bladder through the urethra, and left there. This was afterwards changed for a silver catheter, and the wound granulated over the instrument. In about a month the urine ceased to ooze from the wound, and in three weeks more the wound was closed. The strictured parts were found to be in a very indurated state when divided. This operation is not new; but the case is interesting.—*Ibid.*

8. *Punctured Wound of the Posterior Tibial Artery.*—A formidable case of this kind lately occurred at Bartholomew's Hospital. A young man was wounded by a piece of iron in the calf of the leg, succeeded by considerable hæmorrhage. When received into the hospital, the limb was much swollen and very tense. It was not suspected by Mr. Lloyd that the artery was wounded, and the usual means of reducing inflammation were employed. Three weeks passed away, without any reduction of the swelling, and Mr. Lawrence was induced to think that a large vessel had been wounded, though he did not believe that vessel to be the posterior tibial artery. One part of the swelling softened and was opened, when a quantity of blood and pus issued, apparently from a deep source. The wound was enlarged, and the artery was felt pulsating. Mr. L. proposed amputation as the best remedy, and it was consented to. On examining the leg, a large cyst was found, whence a pound of pus and blood was evacuated. The posterior tibial artery and vein were discovered to be wounded, and this was the source of the mischief.—*Ibid.*

9. *Orthopedia.*—A female had her leg fractured, and being badly attended, in a chirugical point of view, the limb at the end of four months, was so crooked that she was obliged to walk on the exterior edge of the foot. M. Desgranges, of Lyons, undertook to remedy this defect, and by means of mechanical extension of the member, and well applied pressure on the protuberant angle of the fracture, the most perfect rectitude of the leg was obtained.—*Transactions of the Medical Society of Lyons.*

10. *Ossification of the Retina.*—Jean Baptiste Pelletier, æt. 67, blind from his fortieth year nearly, became an inmate of the hospital at Chartres, for chronic pulmonary catarrh, to which he fell a victim on the 18th December, 1824. This individual presented an emaciated or sunken condition of the eyes, which, for a long time, attracted the attention of the author. The right eye was reduced to about the fourth of its usual volume, and had lost its original shape; the extent of the cornea was but half a line in all its diameters; it was thickened and deprived of its transparency. The sclerotica was flaccid and flattened in four different directions, and forming as many surfaces, which could be distinguished into superior, inferior, exterior, and internal. These surfaces were almost flat; they corresponded to the attachments of the straight muscles, and were separated by a deep groove. The internal surface of this membrane was defined by four prominent margins corresponding to the grooves, which completely separated the interior of the eye into four apartments; these were empty, as the humours disappeared spontaneously after a violent attack of inflammation, with which this organ had been seized, in consequence of a blow from a stick about fifty-seven years previously. The iris having contracted an adhesion with the posterior surface of the cornea, its structure could be scarcely distinguished. The rest appeared confused, but presented nothing remarkable.

The left eye was reduced to half its natural size, which diminution took place at the expense of the antero-posterior diameter of the organ. The sclerotica was flaccid; the cornea was opaque, and resembled much in its colour the white portion of the root of the nail; it was flattened anteriorly, and much thicker and larger than in the natural state; the points where its circumference united with the sclerotica were puffy and much thicker than

any other portion of its whole extent. At the anterior and external part of the globe of the eye, a deep cicatrix, of about three lines and a half in length, could be seen, which involved a portion of the sclerotica and cornea, taking a direction from within outwards, and from below upwards. This cicatrix was the sequela of a considerable wound, produced about forty years previously, from the eye coming in contact with a sharp edged stone, in consequence of the individual having fallen from the top of a coach.

A circular incision of the eye permitted the escape of a little yellowish fluid; there was not a vestige of the crystalline lens or vitreous humour to be observed; doubtless these organs escaped through the breach made in the transparent cornea, or tunica sclerotica. The anterior surface of the iris adhered throughout to the posterior one of the cornea; and a portion of it protruded through the wound just mentioned, and contracted an adhesion with its edges. The great circumference of the iris was not detached from the ciliary ligament. Concentric to the other membranes in the bottom of the eye, an osseous body was seen, which, at some points, equalled the sclerotica in thickness, in other parts it was thicker; it presented a double surface, the one external, the other internal. The external one, which had the appearance, colour, and consistence of the parietal bones deprived of their periosteum, was convex and covered by the choroid coat, but it did not adhere to it. The internal surface was concave, smooth, polished, of a shining whiteness, and covered in half its extent by a whitish shining membrane, of a fibrous structure. When this membrane was dried and examined in a clear light, it was glossy, transparent, and, from its colour, resembled much *a lamina* of the crystalline lens, which might have suffered a certain degree of desiccation. Underneath this membrane, the bony surface was uneven and rough. This surface, deprived of its membrane, was thinner than that which was found naked. According to M. Mannoury, this osseous body was nothing else than the retina completely ossified at certain points, and partially in the remaining portions. At a particular point of the circumference of this osseous membrane, there was an irregular aperture with ragged edges; this opening did not afford a passage for any object, and seemed evidently the result of defective ossification. The author thinks it probable, that the hand of time would effect such a change in that fibrous portion spoken of, and which, in its circumference, blended itself with the osseous membrane, so as to convert it also into bone. This socket, which seemed to be constructed of successive scales, constituted two-thirds of the posterior part of the retina, and exhibited anteriorly a circular border, which was rough, uneven, sharp at some points, and about a line in thickness in other parts. It was perforated near its centre by a round opening of about two lines and a half in circumference, with smooth edges. Through this perforation a whitish pulpy nerve passed, which filled up the opening, without adhering to its margins. This nerve made a projection of about half a line on the internal surface of the ossified membrane, where it was superficial, and continued its course through the choroid and sclerotic coats with the optic nerve, of which it was manifestly the continuation. The optic nerves were not examined beyond their entrance into the sclerotic.—*Edin. Journ. Med. Science.*

11. *Case of Ulcerated Cornea from Inanition.* In a letter to the Editor from Joseph Brown, M. D., Sunderland.—On going yesterday to visit a poor babe which you know I was attending at ———, I found that both corneæ had become opaque over a considerable portion of their surface, and that ulceration had commenced; and, on repeating my visit to-day, I found that this ulceration had proceeded so rapidly, that should the little patient live four and twenty hours longer, I am convinced that the contents of the eyes will be discharged. The child, which is six months old, is as much emaciated as possible, the movement of the intestines being visible through the parietes of the abdomen. It was born prematurely, and never had the breast-milk. Since my attendance, which began ten days ago, its diet has consisted of asses'

milk, sugar, and biscuit-powder. But, from the feebleness of the digestive function, it never seems to have derived sufficient nourishment from any food that has been given to it, and has been harassed ever since his birth with bowel complaints. Compare this case with Magendie's account of the dogs fed, or rather starved, on sugar.

12. *Encephalic Phlebitis.*—The following curious case occurred in the practice of M. Gendrin and Dr. Leveque-Lasource, and is detailed in the Révue Medicale for April, 1826.

Case. Madame M———, aged 22 years, of good constitution, was safely delivered of her third child by Dr. Leveque-Lasource. She was in good health during her pregnancy, but had a presentiment that she would not survive her accouchement. She did not suckle her infant. The doctor remarked that a little bouilie occasioned some febrile movement in the system. On the 7th day after delivery, while drawing her nipples with a glass, some blood issued, and frightened the patient very much. She had evinced, for a few days previously, but little regard for her infant. She fainted at the sight of the blood, and, on recovering, complained of cephalalgia of the left side. This pain was not diminished by two applications of leeches. On the 9th day, there was some difficulty of breathing, with pain in the side, which gave way to local bleeding. But the cephalalgia continued. The secretion of milk and of lochia had ceased. 10*th day.* A new moral commotion, from the fire having caught the curtains. The head-ach still continued, in spite of leechings. 17*th day.* Increase of head-ach, with pain in the left ear. Some symptoms of pneumonia requiring leeches. Sudden loss of power in the right arm, with numbness of the left leg. 18*th day.* The paralytic symptoms are increased—the tongue is embarrassed. 19*th day.* The paralysis augmenting—a large detraction of blood, local and general, which was cupped and buffed. This evening (1st Feb. 1826) M. Gendrin and M. Landré-Beauvais joined in consultation. The pupils were but little obedient to the light—tongue moist, but could not be pushed out—right arm completely insensible and motionless, but without rigidity—right lower extremity in nearly the same state—incontinence of urine—she appeared to comprehend, but could only say yes and no—sight and hearing undiminished—skin moist—pulse from 90 to 95, full and resisting. The patient indicated much suffering in the left side of the head. Blister—leeches to the groins. 2*d Feb.* A fit of great agitation came on to-day, with entire loss of speech, the pulse quickening to 136 pulsations, with some subsultus tendinum. Leeches to the head—cold applications—sinapisms to the extremities—twenty-four grains of calomel in six doses. 3*d.* The symptoms evidently more favourable—paralysis diminished—pulse slower and softer—*same remedies as yesterday.* 4*th.* There were convulsive movements of the voluntary muscles, and other bad symptoms, which went on increasing till the 8th February, when death closed the scene. This event took place on the 26th day after accouchement, 17th from the commencement of the cephalalgia, and 9th day of the paralysis.

Dissection. This was not accomplished till after exhumation, on the fourth day from the patient's decease. A considerable degree of decomposition now obtained. On removing the skull-cap, it was observed that the middle cerebral vein of the right side was very much enlarged and tortuous as it approached the falx, where it opened into the superior longitudinal sinus. It was the size of a writing pen. They found it filled with a puriform substance of a yellow colour. In the tract of this vein the arachnoid membrane was slightly opake. The corresponding vein on the left side was in the same state. The whole of the superior longitudinal sinus itself was converted into a diseased mass which it would be difficult to describe, but which was infiltrated in many places with yellow purulent matter. There was organic disease to a vast extent in various other parts of the brain. Nothing remarkable in the other viscera of the body.—*Medico-Chir. Rev. Jan.* 1827.

13. *Exhibition of Sulphate of Quina by Friction.*—M. Bally, having observed that the sulphate of quina very frequently irritates the stomach when swallowed, determined to try its effects by rubbing it on the gums and the mucous surface of the lips. He cured nine cases of intermittent and remittent fevers by this method: the dose was usually from four to eight grains, morning and evening. The only inconvenience was from the extreme bitterness of the medicine, which he suggests might be corrected by mixing some other substance with it.—*Revue Medicale.*

14. *Injury of the Rectum.*—A nurse, in applying a glyster, introduced the point of the syringe so roughly and unskilfully as to push it through the back part of the rectum. By the exertion of considerable force, she emptied the contents of the syringe into the pelvis. The patient, a young lady, suffered considerable pain afterwards. On the sixth day a membranous mass passed away with the feces, which was ascertained to be a portion of the rectum. Upon examination, an opening was found in the back part of the gut, about the size of a dollar, and about two inches from the anus. If a sufficient quantity of water was injected, the rectum was distended, and also the interval between the posterior surface of the gut and the sacrum, in consequence of the fluid escaping through the aperture, the edges of which could be felt loosely floating. The greatest distress and danger arose from the escape of the feces into the pelvis. Injections were used for the purpose of washing out any portion which passed through the opening: a part of the feces still passed in the natural manner. Mild injections were frequently used, in a small quantity, that the rectum might not be kept separated from the sacrum. Light broths, yolk of eggs, &c., were allowed as diet. Professor Grafe was consulted under these circumstances, and he adopted the following plan: He introduced a portion of the intestine of an animal into the rectum, and having filled it with water, he tied the end projecting from the anus: by this means the rectum was kept in contact with the sacrum. Air was afterwards substituted for water, as the weight of the latter was found inconvenient. This plug was removed every twenty-four hours, and the feces, which its presence prevented from descending, evacuated; and the intestine well oiled, again introduced, and filled with air. A gradual improvement followed and in a few weeks the wound was entirely closed, without any contraction of the rectum, and the feces were passed without difficulty.

Journal fur Chirurgie von Grafe und Walther, band ix.

15. *Extract of Garden Lettuce.*—The extract of garden lettuce, the lactucarium of the Edinburgh Pharmacopœia, has already been long known in this country, as affording, in some cases, a valuable substitute for opium. Dr. François, who has chosen to give to this substance the name of *thridace*, has just published some observations which tend to support the favourable opinion entertained respecting it, by some of our northern medical brethren. Dr. F. ascribes to it the power of allaying pain, of producing sleep, of diminishing the too frequent action of the heart, and of repressing inordinate heat, without producing the unpleasant effects of opium. He also praises it as an anti-phrodisiac. The dose which he gives is from eight to ten grains.

Another plant of the same family, the lactuca virosa, has found an advocate in Dr. Thorle, who has employed it with success in hydrothorax, but as he has given it in conjunction with digitalis, it is not easy to determine how much of his praise really belongs to the lactuca.

Lond. Medico-Chir. Rev. Oct. 1826.

16. *Periodical Aphonia.*—A young woman, pregnant for the second time, had, from the fifth month of her pregnancy, been frequently the subject of a temporary loss of voice. Preparatory to such aphonia, the patient complained of a weight and uneasiness similar to that produced by the aura epileptica, and, after an hour, somewhat like an aura proceeded from the feet to the neck, and the loss of speech followed; the patient, however, pre-

served the most undisturbed self-possession and consciousness. The countenance, during the continuance of the aphony, preserved its regular appearance; no spasm of the muscles or any other disturbance—pronunciation was alone prevented. The circulation, the respiration, and all the other functions were perfectly regular, &c. At each attack, a vein was opened in the foot, from which the patient invariably obtained relief, and she could tell by a peculiar feeling when blood enough had escaped. She had, namely, a sensation as if a heavy weight pressed upon her breast, scarcely was the bandage laid on before she felt better, and the power of speaking almost immediately returned. An attack of this kind returned several times during the gestation at an interval of fourteen days, and was always removed by the same treatment. The patient was eventually delivered of a full grown healthy child, since which time she has had no return of the affection, nor any epileptic or spasmodic symptom.

Rust's Magazin fur die gesammte Heilkunde, 1825.

17. *Case in which a number of Living Worms were voided from a Child's Bladder.*—A child, two years of age, who had been for a long time sickly, became very much emaciated, and subject to sudden spasms in the bowels, without the practitioner's being able to discover the cause of the ailment. Some Vienna drink was given to the child, under a supposition that the mesenteric glands were enlarged. A soap liniment was directed, at the same time, to be rubbed on the back and belly, and a solution of the acetas potassæ was given in marshmallow tea. Two days after this treatment was adopted, the father perceived in the child's urine four living worms, which, for some little time appeared very active, and then died. The next day more were discharged; they were then examined by the physician who attended the child, and he describes them to be very much like the larvæ of the common meat fly. There were two dark-coloured spots on the head; the tip of the tail of each larva was also dark. Their usual length was from four to five inches long, and breadth one. These worms continued to be discharged for twenty-one days, in a greater or less number daily, and it was found that their expulsion was assisted by giving the child pretty strong doses of camphor mixture.—*Ibid.*

18. *Prosopalgie cured by Caustic.*—The following case obstinately resisted the combined influences of the whole class of narcotics, blisters, and metallic oxyds, with which the patient was vigorously treated for eight months. If further experiments should confirm the utility of the caustic, it will prove a valuable addition to our therapœia.

Madame N. had, during three years, suffered at certain intervals a violent pain in the face. At first the pain returned only once in the month, but in the last year it renewed its attacks, and these very violently, every week. The pain, in each of the paroxysms, pursued a regular course without any warning or precursory symptoms; it commenced in the lower jaw, as if many burning needles were stuck into the neighbourhood of the part in which the *nervus maxillarius inferior* emerges from the *foramen mentale*. This violent pricking pain darted like lightning over the right half of the lower jaw, upper jaw, cheek, and extended to the upper and lower eye-lid of the right side. The left half of the face remained quite free from pain. With the extension of the pain over these parts, its intensity momentarily increased to a high degree; the least motion of the parts made the pain if possible, still worse. After this paroxysm had continued four, six, eight, and even sometimes twelve hours, it began gradually to subside from the periphery to the point from which it commenced, so that the last trace of pain was felt in the right mental foramen.

Between the angle of the lower jaw and mastoid process of the temporal bone of the right side, a plaster was put on, in which a small opening of about the size of a half silver groschen, was made, and a paste of the *lapis causticus* introduced. This was secured in the usual manner, and allowed

to remain three quarters of an hour. When the eschar was thrown off, a pea was put into the hollow to keep up the suppuration. The reason of the practitioner applying his caustic to this part was, that he might immediately act upon those branches of the pes anserinus which accompany the nervus alveolaris inferior to the mental foramen. Three days after the application of the caustic, a violent paroxysm of pain returned, during which the patient was so unmanageable that she tore off all the applications to the part, so that it became necessary to encourage the suppuration by the use of the mezerion powder. During the two following weeks, two mild paroxysms returned, which continued only a half minute. Since that time to the present (about nine months) the complaint is so diminished that the patient feels only now and then, when the weather is damp or rainy, a trifling uneasy sensation in the cheek, which remains only for a moment.

At the conclusion of this case, Hufeland makes the following remark—I cannot allow this opportunity to go by without observing, that I have many times found that counter-irritants and issues, applied in the space which lies between the flap of the ear and the mastoid process, have been the most effective in chronic cases of ophthalmia and for pains in the ear, teeth, and head; and I am quite satisfied that a small issue or irritated surface does more good in this situation than large ones elsewhere, as for example, in the neck and temples.—*Journal der Practischen Heilkunde.*

19. *On tight bandaging in Phlegmonous Erysipelas, &c.*—About ten or eleven years ago, M. Bretonneau, a distinguished physician of Tours, maintained a thesis on this subject in Paris, and was most roughly treated by the professors on that occasion. In the present instance, M. Velpeau, a man of talent and observation, has come forward to maintain the same principles which had been advocated by his friend, M. Bretonneau. Tight bandaging has been long in use for ulcers, œdematous swelling, and other chronic affections, unattended with much pain or acute inflammation; and M. Velpeau does not seem to know that, some years ago, Dr. Balfour, of Edinburgh, proposed and practised this measure even in *acute* rheumatism. In phlegmonous erysipelas, where the cellular membrane, between the integuments and muscles, and between the muscles themselves become disorganized, tight bandaging has been employed in this country, with the view of changing the suppurative into the adhesive inflammation. Free incisions have also been made into the parts, not only to give vent to the purulent matter, but to bring on a different kind of inflammation in the diseased structures. M. Velpeau incidentally alludes to this practice, as pursued by an eminent surgeon of Paris, and brings forward the present paper to advocate the use of tight bandaging, as a measure that will secure all the advantages of free incisions, without the pain or formidable appearance attendant on the operation by the scalpel.

Ten cases are selected by M. Velpeau from the practice of "*l'Hopital de la Faculté,*" for the elucidation of his subject; consequently the cases are authentic, being under the eye of many spectators, who could readily detect any misrepresentation. We shall give a brief account of a few of these cases.

Case I. This was a young woman, who entered the hospital for the removal of a steatomatous tumour from the ham, which was done a few days afterwards, without difficulty, and without any untoward symptom, until the 8th day, when fever was kindled up, and inflammation extended about the wound. It took on an erysipelatous character, and soon reached within a few inches of the groin. Bleeding, leeching, &c. were employed, but the fever persisted, and "every thing indicated the establishment of suppurative inflammation in the cellular membrane of the thigh." It was even feared that matter had actually formed. The surgeon (M. Bougou) now authorized M. Velpeau to employ his compressive bandages, which were accordingly applied to the thigh—one between the groin and the erysipelas—the other above the calf of the leg. Compresses moderately tight were

also applied between these two points. In the course of the evening the general symptoms of excitement had almost entirely subsided—the pain of the limb was greatly mitigated—the inflammation had ceased to extend—and, in short, the erysipelas disappeared in two or three days more.

Case II. A man, 45 years of age, came into the hospital, for the cure of an ulcer on the shin, of 18 month's standing. The healing of the ulcer was far advanced, when, for the purpose of accelerating the cure, the man was bled from the arm. There quickly supervened considerable fever and constitutional disturbance, followed by an erysipelatous inflammation on the ulcerated leg, extending from the heel to near the knee. Red streaks were also seen extending up the thigh to the groin. To this part a large blister was applied. The fever and inflammation of the thigh subsided; but the leg became greatly swelled, and all the medical officers believed that suppurative inflammation was going on in the cellular membrane of the limb. A bandage was applied methodically by M. Velpeau, from the heel to the knee. During the first hour the pain was rather increased, but afterwards diminished gradually, and had nearly ceased by the evening. Next day, the redness and swelling had greatly subsided, so much so, that had not the constitutional symptoms also subsided, *pari passu*, with the local, the medical attendants would have apprehended a metastasis. This did not happen, and the patient was well in a few days.—*Medico-Chirurg. Review. Oct.* 1826.

20 *Dr. Bland's Hospital Reports.*—In the Nouvelle Bibliothéque for 1826, Dr. Bland has published some of the principal cases which occurred in the Hôpital de Beaucaire, of which he is physician. We shall notice briefly here such as present any features of interest or importance.

Case I. Dennis Faucon æt. thirty-nine, a gardener by trade, had been affected for upwards of two years, with severe attacks of gastric irritation, which latterly had increased much in intensity. July 2, 1825, he applied to Dr. B. with the following symptoms: Extreme emaciation, dejection of mind, sleep broken, tongue red, and its papillæ elevated, some appetite, a feeling of weight and oppression in the region of the pylorus, changing about an hour after taking food into insupportable pain, attended with nausea, and vomiting, generally of a liquid matter. It is remarkable, that after taking a full meal of animal food, these symptoms would not make their appearance, while, on the contrary, on eating vegetables, or any light food, the pain, vomiting, &c. would be sure to occur.

Supposing the case to be scirrhus of the pylorus with chronic gastritis, Dr. Bland prescribed one grain of extr. cicut. three times a day, with some other remedies of no importance.

On the fifth of July, in the middle of the night, during a fit of vomiting, the patient expelled a hard, black body, which, on examination, proved to be a peach-stone, its roughness rounded down apparently by attrition. The man now said, that several years before the first appearance of the disease, he was frequently in the habit of going to sleep with a peach-stone in his mouth.

From this time the disease began to be mitigated, though it did not quite disappear till the end of January, when Faucon regained his health and former enbonpoint.

Remarks.—The length of time the foreign body remained in the stomach without being suspected; the resemblance which the symptoms bore to those of scirrhus of the pylorus; and finally, the non-appearance of the regular paroxysm on eating a quantity of animal food, render this case not only uncommon, but very interesting. There is this difference between the history of this affection, and that of cancer of the stomach, that in the latter, any thing which calls for great action in the organ, such as a full meal, so far from affording relief, as happened in this instance, causes great aggravation of the sufferings. The relief experienced when the stomach was

distended, no doubt arose from the viscus being so prevented from coming in contact with, and acting on the foreign body.

Case II.—Jean Baumelle, æt. fifty-nine, entered the hospital on the second July, 1825, presenting the following symptoms: dull, bearing down pain in the hypogastrium; great difficulty and straining in making water; the urine fetid, and always preceded by a quantity of muco-purulent matter, mingled at times with clots of blood; occasional hæmaturia. On introducing the finger into the rectum, the bladder was felt thicker and more resisting than natural. The stools were healthy, the emaciation and debility excessive.

Iodine was the remedy employed with the effect of gradually lessening the difficulty of passing the urine, as well as the quantity of muco-purulent matter which accompanied it. This treatment was continued till the fifteenth of September, when it was discontinued, the patient being nearly well.

Remarks.—Dr. Bland remarks, that in his hands the hydriodate of potass has been successful in arresting chronic inflammation of the mucous membrane of the nose and bladder: we hope that the medicine will prove equally efficacious in the hands of others.

Here follow four cases of tic-douloureux of the sub-orbital and dental divisions of the fifth pair of nerves. The gist of our author's observations is this, that where the neuralgia was *intermittent*, the sulphate of quinine was effectual in stopping the disease: where, on the contrary, the paroxysms were only *remittent*, the quinine was found ineffectual, and the extract of henbane, valerian, and oxide of zinc, succeeded in checking them.

Three cases of carbuncle are detailed, one of them fatal. The first appeared on the right cheek of a man of upwards of fifty years of age, of a strong constitution, and residing in an unhealthy neighbourhood. M. Linnée, the surgeon of the hospital, having made a crucial incision into the pustule, placed in the wound a quantity of caustic potass. The disease, however, spread rapidly, and Dr. Bland being called in consultation, a second cauterization was practised on the subjacent cellular tissue, fomentations were applied and the man did well.

The next patient was not so fortunate. He resided in the country, was apparently healthy, and was forty years of age; the carbuncle was seated near the sternal extremity of the left clavicle, cauterization was freely employed, but in two days he sunk.

The third case was that of a girl, ætatis 12; the anthrax was here situate upon the left upper eyelid; leeches, cataplasms, and strict diet were the means employed. The girl recovered.

Our author remarks, and we entirely agree with him, that where there is little action, where the disease seems indolent, and where the gangrenous parts are not divided from the healthy by a well defined inflammatory circle, cauterization is the plan indicated. Where, on the contrary, there are severe pain, febrile heat and strong pulse, the antiphlogistic treatment will be found the best.—*Idem.*

21. *Chloruret of Lime in Burns.*—This substance, in rather a dilute solution, has been applied, in La Pitié, to burns of different kinds, and apparently with advantage. The application is sometimes made directly after the accident—sometimes with the precaution of previous emollient cataplasms. The burnt surface is first covered with fine linen slit in various places, and spread with cerate. Over this is placed a quantity of lint wet with the solution of chloruret of lime, more or less strong, according to the idiosyncrasy of the patient. The dressings should be frequently moistened with the solution, and never permitted to get dry.

Burns are divided, by M. Lisfranc, into six degrees of intensity: viz. 1mo. Superficial inflammation, without phlyctenæ; 2ndo. Inflammation of the skin with phlyctenæ; 3tio. A portion of the papillary substance of the skin blackened, the vital powers of this portion extinguished, but the alteration not extending deep; 4to. The whole substance of the skin burnt and

deprived of life; 5to. All the tissues disorganized, the bones only left untouched; 6to. The soft and hard parts reduced to a state of carbonization.

M. Lisfranc details seven cases of burn, produced in various ways, and by different burning substances, which were treated with success in La Pitié. They were almost all burns of the *third* degree according to the above scale, some of them being only of the second degree of intensity.

Whether this mode of treatment possesses advantages over the cold applications, or the opposite dressings of turpentine, &c. which are in use, must be decided by clinical experience. We here put our readers in possession of M. Lisfranc's plan, without hazarding any opinion of our own.—*Idem.*

22. *Fistulous Ulcers.*—M. Roux evinces some peculiarities of practice in fistulæ. When sinuses, for instance, run along under the integuments on the extremities, or elsewhere, he not merely lays them open their whole length, but excises a portion of skin over their track, by which means, he avers, they heal much better. So in fistula about the anus:—he gives himself very little trouble in searching for the opening into the gut—for sometimes this is several inches from the anus—he therefore pushes the bistoury through, and divides the fistula. If there are several sinuses about the verge of the anus, he slits them open in all directions, and cuts away the flaps of loose skin, making a large sore, which, however, soon heals. It is in this way he treats, with great success, it is said, those fistulous openings which so often remain in the breasts of females after milk-abscesses.

23. *Deep-seated Abscess.*—Inflammation of the cellular tissue round the femur near its tibial extremity is a dangerous disease. The anatomical disposition of the parts favours the production and collection of large quantities of matter that spread far and wide, separating the muscles, and denuding the bone. Death is generally the consequence. M. Roux has proved that some cases may be saved by very bold incisions, and subsequent tight bandaging.

Case. A boy, 12 years of age, was brought into the hospital on the 10th of December, presenting an enormous swelling of the right thigh, of a fortnight's duration. Poultices were applied for a few days, when M. Roux thought he could perceive some obscure and deep-seated fluctuation. An incision, four inches in length, was made parallel with the sartorius, and terminating a few inches above the knee. He divided, in succession, but cautiously, the skin, the cellular membrane, the aponeurosis, and the vastus internus muscle, when the knife entered the abscess, and nearly two pints of matter were discharged. The next day a counter-opening was made on the opposite side—some bands (brides) divided—and a large seton passed through behind the femur. The suppuration was great but the little sufferer's strength was kept up, and by a judicious use of bandages afterwards, the case was brought to a favourable conclusion.—*Archiv. Gen. Juilles*, 1826.

24. *Laurel Water in Epilepsy*, by Dr. Muller.—A young girl, twenty-two years of age, had been epileptic for six years. The attacks frequently returned twice in one day; they were of short duration, and in the intervals the patient had spasms in the arms, and moved her fingers in a convulsive manner. She had been for eighteen months bedridden, unconscious of her state and actions, eating and drinking any thing offered, but asking for nothing, and passing her stools involuntarily. A variety of means were tried without effect, and all of them, but particularly large bleedings, appeared to be hurtful. M. Muller was called, and found the patient in this state. She had always been regular in menstruating, and had never had any but the ordinary diseases of infancy, and never any chronic eruptions of the skin, nor worms. The tongue was soft and moist, belly pliant, respiration natural. Not being able to find any cause for this disease, M. M. thought of employing laurel water, from which he had often derived great advantages in nervous affections similar to this. He prescribed it in the dose of twenty drops daily. After the consumption of an ounce, the convulsive movements of the limbs had completely ceased; and after the administration of three ounces more,

(augmenting each dose two drops till the dose was eighty drops,) the attacks of epilepsy never returned. The patient having recovered her sensibility, left her bed, and executed spontaneously every function. The treatment was concluded by an infusion of valerian, with addition of træ. canellæ and liquor ammoniæ; and, after using for some time some preparations of iron, she quite recovered her health.—*Revue Medicale.*

25. *Tincture of Cantharides for the Bites of Venomous Reptiles.*—M. le Docteur Ricord, sen. during a long residence in America, discovered what he considers a sure mode of preventing mischief from such bites. "It is sufficient (he says) to pour a few drops of tincture of cantharides on the wound to cause a redness and vesication; not only is the poison rendered harmless, but the stings of the reptiles are removed with the epidermis that the blister raises."—*Ibid.*

26. *Acupuncturation in Tic Douloureux.*—Two cases are given by Dr. Bergamaschi, illustrating the good effects of acupuncturation in this most painful disease, when most other known remedies had been tried, and failed. J. Crespi, æt. 38, born of healthy parents, himself of good constitution, and always healthy, had occasion to work for some time in a damp place, and soon afterwards a severe and almost insupportable pain came on in the occiput, behind the ear, along the zygomatic apophyses, in the upper jaw, in the forehead, and particularly over the eyebrow. During five months every means were tried; as the use of camphor, musk, belladonna, hyosciamus, stramonium, opium, leeches, blisters, mercury, electricity, but all without success. A convulsive twitching agitated the right eye-lid and upper lip. M. B. ordered leeches, and, after their application, neutral salts, with tartarised antimony. This calmed the patient, but next day violent paroxysms came on, and two days after the patient was so ill as to threaten to destroy himself if not relieved. A steel needle was plunged during a slight remission into the superior and anterior part of the temple, and left for a few minutes; another, introduced near the angle of the inferior jaw, penetrated to the bone; a third pierced the masseter muscle; and the last was placed running from before backwards in the mastoid apophysis towards the angle of the jaw. They were left in only during ten minutes, before the expiration of which the pain had ceased. Some pain having returned on the following days, it was necessary to have recourse from time to time to the acupuncturation, which always removed it as if by enchantment. Soon afterwards the patient resumed his occupation, and has had no return.

Martin Pasca, æt. 43, very robust, after working with his arms exposed on the morning of January 8, 1825, was suddenly seized with a sharp pain in the vault of the palate, extending to the tongue, and externally to the right cheek, to the masseter, and towards the angle of the inferior jaw, occupying also the ear, the muscles of the neck, and the integuments. For four months the pains were so dreadful that, from fear of increasing them, the patient generally refused to eat or drink; he became emaciated in consequence. When called to this case, Mr. B. first ascertained whether any carious teeth might have caused the disease; which not being the case, he plunged transversely into the buccinator muscle a long steel needle, a second behind the ear, and a third at the angle of the inferior jaw; they were allowed to remain for eight minutes, during which time the convulsive contractions of the lower lip, as well as a great part of the pain, ceased, and the patient afterwards had some sleep. This relief did not last long: a meal taken in the evening brought back all his sufferings, which were next morning removed by the introduction of five needles, left in for twelve minutes: before using these last M. B. had given an emulsion, containing ext. hyoscyami; the pain ceased suddenly, and was succeeded by a sense of itching. From this time the exhibition of ext. hyosciami internally, and frictions with oil mixed with this substance, were the means used, and during eight months scarcely the least return of pain was experienced.

London Med. and Phys. Journal, Jan. 1827.

27. In the *Ephemerides Medicales* of Montpellier, an interesting series of clinical reports are given by Professors Lallemand, Broussonet, Delmas, and Rech, each in his own department. It is needless to make any remarks on the utility of such reports. A great mass of interesting matter has been already accumulated, and we intend occasionally to present our readers with a few of the most interesting cases.—(*Edinburg Journal of Medical Science.*)

28. *Wound of the Thorax, with effusion of Air.*—At five in the evening of the eleventh September, Chambrand received a wound with a small sword in the left axilla, which seemed to penetrate very deep. Immediately on receiving it, the patient felt a difficulty of breathing. No blood flowed from the mouth, but a great quantity from the wound. The surgeon bled him to twelve ounces, and applied ten leeches. At eleven P. M. he was brought to the hospital in the following state: Expression of anxiety on the features; great difficulty of respiration; impossibility of lying on either side; pulse small, frequent, and sometimes intermittent: Venesection ad ℥ xvi.; cold applications to the chest. At four o'clock, the pulse appearing to rise, the bleeding was repeated. The next day, September 12, Monsieur Lallemand, struck with the difficulty of breathing, and the intensity of the other symptoms, examined the chest by the stethoscope and percussion, and discovered that the left side was full of air, which was compressing the lung (absence of respiration and sound clearer on the affected side.) He consequently gave a favourable prognosis. As the patient was very stout, a fresh bleeding was ordered, and was again repeated in the evening. He went on well, and was discharged, cured, the seventeenth September.—(*Ephemerides Medicales*, tom. ii. Mai, 1826.)

29. *Hæmaturia.*—In this interesting case, the patient had been passing blood with his urine, for nearly seven months before he came under professor Lallemand's care, in December, 1825. He was very frequently affected with retention of urine, in consequence of clots of blood obstructing the urethra. He felt constant pain in the lower part of the abdomen, with a lancinating pain at the margin of the anus. An elevated temperature increased the difficulty of making water, while it was rendered easier by the motion of a carriage. The urine is thus described. The superior layer, some lines in thickness, was of a milky-white colour, resembling a thick emulsion; the middle portion, nine-tenths of the whole, was of the colour and consistence of the lees of wine; the bottom of the vessel was covered with pure blood, both liquid and coagulated; the clots varied from the size of a pea to that of a nut. The patient's face was extremely pale and anxious. A great variety of remedies had been used without success. M. L. prescribed five pills of turpentine (*terebinthine*), two grains each morning and evening; two ounces of rhatany, boiled with eight ounces of water, in the forenoon; a bath every second day. Every eighth day the dose of the medicine was increased; so that, in a month, the patient took forty grains of turpentine and six ounces of rhatany root in the day. Under the influence of this treatment, the urine became less thick, and less deep in colour; the quantity of blood diminished, and the clots disappeared. The painful feelings in the abdomen and margin of the anus were alleviated, but the patient had occasional relapses. At length, however, during the middle of the night, he was seized with most violent pains in the calves of the legs, and thighs, accompanied with violent muscular contractions. He had been subject to similar attacks at a former period. This continued about two hours, and then left him. Next day the urine was perfectly clear, and has continued so ever since. He is perfectly restored to health.—*Ibid.*

30. *Frontal Neuralgia.*—Esche Francois, thirty-six years of age, when in Spain, received a blow (coup de stylet) on the right frontal protuberance, which fractured it. The wound was enlarged, and a small scale extracted. It healed in fifteen days; but he has ever since suffered from pain in the orbit, with progressive weakening of the sight. In 1818, he received some

relief while under the care of M. Delpech, of Montpellier; but this was not of long continuance. On the 3d November, 1821, he came under the charge of M. Salaurie, who reports his case. He was pale and sunk, with an appearance of melancholy and despair. His strength appeared exhausted. His pulse was slow and weak. He complained of severe pain in the orbits. The following changes took place daily in his complaint: At sunrise the pain became exceedingly violent, with shootings, which seemed as if they would split his head into two parts. He was then perfectly blind. Between ten and eleven he was a little better, and could distinguish objects. About four o'clock he became blind again, with a very dilated pupil. The pain still continued, but without the shooting and darting feelings of the morning. The integuments of the head had become so very sensible that he could not suffer the hair to be touched, without screaming. Leeches, &c. were tried, but without benefit. A grain of white oxide of arsenic was divided into sixteen pills, and one a day given. On the third day he was better. He continued this treatment, with some interruptions, till the first of December, when he was almost entirely well; pains gone, and vision restored, except towards evening, when it was a little obscure. In a short time afterwards he was perfectly recovered.—*Ephemerides, Fevrier*, 1826.

31. *Aphonia produced by Lightning.*—In the case related by M. Desjardins of Havre, a sailor, when ascending the mast of his vessel, during a storm, felt a violent shock in his right thigh and leg, which were immediately paralyzed. He attempted to cry out, but could not. He continued lame for ten days, but after that time he could walk tolerably well. Complete aphonia, however, remained. When seen thirteen days after the accident, he could emit no kind of sound, however violent the efforts he made. On examination, the thyroid and cricoid cartilages, the glands and surrounding muscles, were visibly engorged, all the interior part of the neck was hard and tumefied—pulse quick, but not hard—no pain, the tongue free in its movements—the uvula, tonsils, and velum, were in a state of inflammation—twenty-five leeches were applied—five days afterwards, the patient could speak but very little—leeches were again applied, and in a few days all traces of aphonia had disappeared.—*Annales de la Medicine Physiologique, June*, 1826.

MEDICAL INTELLIGENCE.

[The following communication from a highly respectable correspondent, describing a novel method of employing alum as a stiptic, will be read with interest.]

1. *To the Editors of the Medical Recorder.*

Gentlemen—The first article in your number for January, by Dr. Jameson, taken as a whole, is by far the most interesting and the most able dissertation upon traumatic hemorrhage that I have ever read. It merits the careful reading and attentive study not only of the junior part of the profession, but of every member of the medical faculty. But, since every method of treatment cannot be fully noticed in one brief essay, and Dr. J.'s notice of stiptics and astringents is very short, I think it might be proper, now that the public attention is turned to this subject, to state the method of applying alum *in substance*, which is highly recommended, and employed with much success, by Eli Ives, M. D. professor of materia medica at Yale College. The professor

fully agrees with all respectable surgeons of the present day, that every bleeding artery, which can be found by proper search, should always be secured by ligature or compression; yet there are many instances in which such arteries cannot be found, without much more cutting and dilatation of the wounded part than is desirable. In such cases he introduces, as near as possible to the source of the hemorrhage, *a bit of alum*, from the size of a pea to that of a filbert, and confines it closely by ordinary compression and dressing. It is confidently believed, that when this process has been properly executed, in every case in which it has been judged necessary to employ it, there has not been a single instance of failure. Several cases of its complete success, though they seemed to be rather unpromising, have come to my knowledge.

Professor Ives also employs alum much in the same way, in uterine hemorrhage, after parturition. A bit of alum, cut into the shape of a probate spheroid, whose longest diameter may be an inch and a half, and the shortest three-fourths of an inch, has an indentation made around the centre, sufficiently deep to secure a piece of tape from slipping, which is always tied around it. The lump is introduced into the uterus, and if contraction does not instantly ensue, and the hemorrhage continues to be alarming, it should be moved by the hand around to all the sides of the organ, till it has passed over the whole, or nearly the whole, of the inner surface. The hand is then withdrawn, and the alum remains behind. The hemorrhage is very surely stopped, and as soon as the strength of the patient is recruited, by means of the tape, a portion of which should always remain without the vagina, the alum is easily removed. However, no essential inconvenience results from its remaining behind, for twelve or twenty-four hours.

So fully sensible are the best practitioners in this quarter (Connecticut) of the beneficial effects of *alum in substance*, as a stiptic, that several of our first accoucheurs always carry in their pockets a bit of alum armed with a piece of tape, in case of a sudden emergency.

A similar treatment is often very useful, in many obstinate cases of chronic menorrhagia.

I shall trouble you with but one further remark. While it is agreed, that in the infancy of our art, vastly too much stress was laid upon the actual and potential cauteries, and various stiptics and astringents, for the purpose of staying hemorrhage, it is well worth our inquiry whether modern surgeons have not some times gone to the opposite extreme. Surely, where a bit of alum, properly confined, will safely command hemorrhage, we ought not to resort to a tedious operation.

MEDICUS.

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2. Extract of a letter from our respected correspondent, Dr. Doucet, of New York, dated

"*Paris, 15th August*, 1826.

"Among the subjects of medicine that excites at this moment most attention in Paris, indeed, I might say in Europe, is the lithontriptical or Civiale operation; it has had, like all other new discoveries, its partizans and detractors; but the Civialists are gaining ground every day, and the doctor enumerates among his admirers the first medical men in this capital. Soon after my arrival in this city, I was introduced to the doctor; his kind deportment towards foreign physicians, and his hospitable attention towards me has, consequently, afforded me the facility to see him perform his operations, and to witness his success. Within two months, eight patients have been operated on and cured. I have assisted at all his operations; they were so easily done, attended with so little pain, and no kind of danger, that I hope before long the lithontriptor, in the hands of our skilful surgeons, will leave to crystotomy but very few subjects. Although I have collected a number of documents relative to it, I will confine myself in this letter to the observations and facts which I have witnessed myself.

When I first attended with Dr. Civial, he had four patients in hand, from the different parts of France, and one from Belgique; I have seen them return to their homes perfectly cured; in no instance have I observed on their countenances, during the operation, any thing like the expression of great pain. I frequently asked them what they suffered? they uniformly told me the pain was not very great; they could not describe the sensation they experienced, but it was a "disagreeable uneasiness." The patients came on foot from their homes to be operated on, and returned without any inconvenience; the four others, whom I saw when they first arrived, are cured, except a little boy, twelve years old, who is doing well.

I will omit the description of the instrument, as it has already been given in the Medical Recorder. The treatment previous to the operation is spare diet, and frequent introduction of a bougie in the urethra, to accustom the canal to the presence of instruments, &c. The ingenuous inventor of the lithontriptor places his patient, extended his whole length, on a couch elevated on a table, with a pillow to raise a little his breech, and his head resting on another pillow; the operator has extreme familiarity with his instruments, and he handles them with quickness, delicacy, and precision; no person will require to be held to prevent the spasms which might perhaps take place in the bladder; and to obviate the narrowing of its cavity, consequent upon the old frequent efforts of micturition and at expelling the stone, warm water is injected into that viscus, so as to increase its volume, without inconveniently distending it, which is done by means of a catheter, and a syringe adapted to it; the instrument bedewed with oil, is then introduced; those large instruments are not subject to make false passages, and by stretching the urethra, prevent any doubling of the mucous membrane occuring, which so much obstructs the passage of instruments. If the calculus be a fusible or a triple phosphate, it will, ten to one, easily give way to the saw-toothed blade; but if it be an oxalate of lime, or lithic stone, it will resist, and the wrench will be wanted. I have seen a man delivered of a triple phosphate in a setting of ten minutes; the stone is always reduced to atoms; and every larger portion is pursued and seized by the instrument, till its diameter is duly diminished. After allowing the water first injected to flow away, charged with sand, inject water anew through the catheter, which once more comes away with particles of stone; the patient then takes a hip bath, and, if irritable, a little hyosciamus or laudanum.

There are now forty-eight persons who have undergone the operation with success, within two years and a half; not one has been incommoded during that period, either by stone, or by any accidents proceeding from the operation.

Several surgeons in Paris give up their whole attention to that exclusive branch of surgery; they have not, as yet, succeeded in their pretensions and researches to improve the instrument invented by Civial, and it is generally believed it is that which renders their efforts unfruitful."

We received with this letter an account of two cases published by Dr. D. in the Gazette de Santé; also two extracts, one the report of Baron Percy to the Academy of Sciences; the other a memoir on the lithontriptor, by Dr. Civial, inserted in the Archives General de Medicine; the former of which has been already noticed in this journal.

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3. *To the Editors of the "Medical Recorder."*

Gentlemen—In compliance with a request made by the secretary for foreign corespondence of the "Medico-Botanical Society of London," and in accordance with my duty, I have to ask of you the favour of publishing in your valuable "Medical Recorder," the following communication.

Respectfully, your obedient, humble servant,

WILLIAM ZOLLICKOFFER.

To WILLIAM ZOLLICKOFFER, M. D., &c. &c.
Corresponding Member of the Medico-Botanical Society of London,
No. 32, Sackville street, Piccadilly, London,

The Secretary of the Medico-Botanical Society of London, presents his compliments to Dr. Zollickoffer, and would feel much obliged by his procuring the insertion of the following notice of the proceedings of the society in the "New York Medical and Physical Journal," and any other of a similar kind which he may think proper.

Medico-Botanical Society of London.

The first general meeting of the seventh session of this society was holden on Friday, the 13th of October, 1826, at 8 o'clock, P. M.

Sir James McGregor, K. T. S., Director General of the Army Medical Board, President, in the chair.

After the usual business of the society had been gone through, a letter from his royal highness the duke of Clarence was read, desiring his name to be added as an honorary member, and regretting that his residence at Bushey Park excluded the possibility of his attendance that evening. The director (Mr. Frost) then delivered his oration, in which he congratulated the society on the rapid advance it had made during the last session, and the great benefits it had derived from the unwearied zeal, which many of its members exerted in its behalf; he also informed the meeting, that their distinguished president had lately resolved, that no person shall be admitted to an examination to qualify him to practise in the medical department of the army, without having attended, amongst other branches of study, lectures on botany for six months; the salutary effects of which regulation will, in a few years demonstrate its utility.

Sir James rose to address the society, and assured them that he was performing but his duty in enforcing the regulation just mentioned, or any other of a similar nature which might conduce to the welfare and promotion of science; and concluded by moving that the thanks of the society be given to the director, and that he be requested to make his excellent oration more public.

The Chevalier Castillo, consul general for Spain in London, was introduced, and admitted a foreign member of the society.

Several letters from distinguished foreigners were read; among whom were Barons Humboldt and Ferussac, Mr. Wyttenbach, and Mr. Jacquin, whose diploma of honorary member was intrusted by the president to Mr. Nivenot, of Vienna. A communication from his Britannic Majesty's vice consul for Guatimala, Mr. Schenby, was read, and the meeting adjourned to the 10th day of November, 1826.

J. P. YOSY,
Sec'ry for Foreign Correspondence.

P. S. The following distinguished individuals are honorary fellows of the Medico-Botanical Society of London.

Earl Spencer, K. G., President of the Royal Institution. Sir Humphrey Davy, Bart., President of the Royal Society. Sir Henry Halford, Bart., President of the Royal College of Physicians. Sir James Edward Smith, M. D. F. R. S. President of the Linnean Society. Thomas Andrew Night, Esquire, F. R. S. F. L. S., President of the Horticultural Society. William George Maton, M. D. F. R. S. F. A. S., Vice President of the Linnean Society.

The officers of the society consist of a President, six Vice-Presidents, a Director, a Treasurer, and a Secretary.

The council is composed of fifteen persons, including the President, the six Vice Presidents, the Director, the Treasurer, and the Secretary.

4. STATEMENT OF DEATHS,

With diseases and ages, in the City and Liberties of Philadelphia, from the first January, 1826, to the first January, 1827.

NOTE.—Of the foregoing there were males of 20 years and upwards, 1055; 1142 under 20 years: 985 females of 20 years and upwards; 962 under 20 years: and 7 children (principally under the age of one year) whose sex is unknown.

There were 337 returns received at the Health Office of persons who died in the Alms-House of the City, during the year; and 529 people of colour are included in the statement of interments.

Agreeably to returns made and collected from 126 practitioners of midwifery, there have been born in the City and Liberties, from the first January, 1826, to the thirty-first December, 1826, 3526 male, and 3214 female children; making the total number of births, 6740: leaving a difference between the births and interments of 2589.

The cases of small-pox were brought to the city from New York.

Deaths in each month of the within period.

	Adults.	Children.	Total.
January,	194	134	328
February,	191	148	339
March,	149	205	354
April,	190	200	390
May,	138	127	265
June,	139	186	325
July,	183	332	515
August,	153	200	353
September,	184	174	358
October,	230	167	397
November,	144	145	289
December,	122	116	238
	2017	2134	4151

OF THE FOLLOWING AGES.

Under one year,	1150
From one to two,	380
" two to five,	285
" five to ten,	134
" ten to fifteen,	65
" fifteen to twenty,	123
" twenty to thirty,	429
" thirty to forty,	452
" forty to fifty,	380
" fifty to sixty,	271
" sixty to seventy,	209
" seventy to eighty,	135
" eighty to ninety,	98
" ninety to one hundred,	32
" one hundred to one hundred and ten,	7
" one hundred and ten to one hundred and twenty,	1
Total,	4151

By order of the Board of Health,
JOSEPH PRIOR, *Clerk.*

Health Office, Philadelphia,
January 2, 1827.

DISEASES.

Atrophy,	31	Fungus Hæmatodes,	1
Abscess,	21	Gun-shot wound,	1
Asthma,	8	Gout,	1
Apoplexy,	50	Hæmorrhage,	26
Apthæ,	2	Hernia,	7
Aneurism,	2	Hives,	80
Anthrax,	1	Hooping Cough,	43
Angina Pectoris,	3	Insanity,	16
Bronchitis,	16	Influenza,	20
Burns,	21	Inflammation of the Lungs,	174
Consumption,	587	Brain,	60
Convulsions,	258	Breast,	30
Colica Pictonum,	2	Bowels,	73
Cachexy,	6	Liver,	54
Catarrh,	64	Stomach,	22
Cynanche Maligna,	2	Heart,	2
Childbed,	5	Kidneys,	3
Caries,	1	Peritonæum,	7
Cancer,	17	Spleen,	2
Casualties,	19	Uterus,	2
Colic,	11	Jaundice,	5
Compression of the Brain,	1	Locked Jaw,	8
Chorea Sancti Viti,	1	Laudanum to excess,	3
Coup de Soleil,	1	Lethargy,	1
Cholera,	244	Melancholia,	1
Decay,	13	Measles,	101
Debility,	277	Mania a Potu,	55
Dropsy,	78	Mortification and Gangrene,	23
in the head,	126	Old Age,	90
of the breast,	38	Palsy,	31
Dysentery,	72	Pleurisy,	18
Diarrhœa,	99	Prostate Gland,	1
Drunkenness,	28	Rheumatism,	12
Drowned,	48	Sore Throat,	9
Disease of Hip Joint,	2	Scirrhus,	2
of the Heart,	6	Scrofula,	19
of the Spine,	4	Syphilis,	4
Death by Opium,	1	Stone,	2
Dyspepsia,	3	Spasms,	5
Diabetes,	1	Salivation,	1
Epilepsy,	16	Suicide,	13
Erysipelas,	8	Small Pox, (natural)	3
Fracture,	6	Sudden,	66
Found dead,	13	Still Born,	306
Fever,	89	Tumours,	6
Bilious,	119	Tympanitis,	1
Typhus,	93	Teething,	12
Remittent,	75	Violence,	6
Intermittent,	23	Worms,	6
Inflammatory,	2	Vomiting,	1
Nervous,	11	Ulcers,	3
Hectic,	7	Unknown,	68
Scarlet,	4		
Puerperal,	9	Total,	4151

5. HEALTH OFFICE, BALTIMORE, January 1st, 1827.

REPORT OF INTERMENTS,

In the City of Baltimore, from the first day of January, 1826, *to the first day of January,* 1827.

INTERMENTS.

	Males.	Females.	Total.	Coloured.	Free.	Slaves.
January,	112	94	206	48	37	11
February,	93	87	180	55	42	13
March,	70	63	133	43	33	10
April,	77	62	139	39	30	9
May,	77	56	133	44	38	6
June,	69	56	125	34	30	4
July,	165	112	277	80	68	12
August,	88	87	175	34	30	4
September,	91	45	136	39	31	8
October,	100	75	175	41	31	10
November,	61	54	115	38	34	4
December,	74	54	128	31	25	6
Total,	1077	845	1922	526	429	97

OF THE FOLLOWING AGES.

Still born,	92
Under one year,	412
Between one and two,	171
" two and five,	138
" five and ten,	71
" ten and twenty-one,	117
" twenty-one and thirty,	178
" thirty and forty,	230
" forty and fifty,	178
" fifty and sixty,	131
" sixty and seventy,	88
" seventy and eighty,	59
" eighty and ninety,	41
" ninety and one hundred,	9
" over one hundred,	2
Total,	1922

OF THE FOLLOWING DISEASES.

Abscess,	2	Consumption,	306
Apoplexy,	3	Convulsions,	55
Asthma,	2	Croup,	26
Burn,	5	Dropsy,	62
Cancer,	10	" in the head,	22
Casualty,	28	Drowned,	29
Child-bed,	19	Dysentery,	47
Cramp Colic,	11	Dyspepsia,	2
Colic Bilious,	6	Erysipelas,	2
Catarrh Bilious,	1	Fever, Catarrhal,	60
Cholera Infantum,	119	" Bilious,	113
Cholera Morbus,	11	" Inflammatory,	1

Fever Intermittent,	6	Piles,	1
" Typhus,	44	Pleurisy,	36
Gout,	1	" Bilious,	1
Gravel,	1	Pneumonia,	7
Hemorrhage,	12	Poison,	4
" Uterine,	1	Quinsy,	8
Inflammation,	10	Rheumatism,	3
" of the Brain,	12	" Inflammatory,	1
" of the Bowels,	1	Scald,	4
" of the Lungs,	5	Scrofula,	1
" of the Throat,	9	Spleen,	1
Infanticide,	1	*Small-pox,	2
Intemperance,	21	Still-born,	97
Jaundice,	3	Sudden,	20
Liver complaint,	26	Suffocation,	3
Lock Jaw,	2	Suicide,	4
Mania,	5	Teething,	8
Manslaughter,	2	Thrush,	1
Marasmus,	10	Ulcerated sore throat,	2
Measles,	3	†Varioloid,	2
Mortification,	5	Variolous,	1
Mumps,	1	Unknown Adult,	62
Murder,	2	" Infantile	355
Old Age,	107	Whooping Cough,	45
Organic disease of the heart,	3	Worms,	7
Palsy,	14		
		Total,	1922

N. B. The coloured population of this city, in 1820, according to the United States' Census, was 10,294 free, and 4,357 slaves.

By order of the Board of Health,
DAV. HARRIS, *Secretary.*

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6. *Philadelphia Medical Society.—Officers for* 1827.

President—Philip S. Physick, M. D.
Vice Presidents—Joseph Parrish, M. D., Samuel Jackson, M. D.
Corresponding Secretaries,—B. H. Coates, M. D., John Bell, M. D.
Treasurer—D. F. Condie, M. D.
Orator—John Bell, M. D.
Librarian—Alfred Drake, M. D.
Curators—Thomas H. Ritchie, M. D., Alfred Drake, M. D.
Library Committee—C. D. Meigs, M. D.; H. L. Hodge, M. D.; R. Huston, M. D.

The following gentlemen were elected honorary members during the present session. Andrew Retzius, Professor Veterinary Institutes. Christ. Carlander, Secretary Medical Society of Stockholm. Christ. E. Weizel, President of Board of Physicians, Stockholm, Sweden. Professor Broussais, Paris. Dr. P. S. Townsend, New York. Dr. Samuel Anderson, Delaware county, Pennsylvania.

The following lectures have been read before the society during the present session. By Dr. B. H. Coates, on Mania a Potu; Dr. Meigs, on Irritability; Dr. Hodge, Practical Observations on Congestion; Dr. Hays, on Inflammation of the Sclerotica; Dr. Hopkinson, on Sick Headach; Dr. Condie,

* Died at the hospital (in May last) to which place they had been removed immediately after the disease made its appearance.

† One died at the hospital, March last; all the cases were introduced by vessels arriving at this port.

on the Pathology of Hæmorrhages; Dr. Huston, on Plegmasia Dolens; Dr. Caspar Morris, on the Benefit of Topical Depletion from the Epigastrium; Dr. Bell, on the Membranous Tissues as the seats of Fever, and other Diseases; Dr. R. Coates, on the Formation of Callus, as connected with the treatment of Fractures; Dr. Jackson, on Irritation; Dr. Emerson, on Nicotiana; Dr. Brewster, on the Properties of the Gastric Juice; Dr. Rousseau, on the effects of Dress on the Human Constitution; Dr. Parrish, on Inanition; Dr. La Roche, on the importance of the study of Morbid Anatomy; Dr. R. E. Griffith, on Poisons.

The following gentlemen were elected junior members:

Pennsylvania.—Moses Lancaster, J. Roads, Isaac B. Carpenter, Robert Bridges, J. W. Mears, Esaias Kinzer, E. P. Hooper, W. B. Watson, Charles Shoemaker, F. Stewardson, N. Goodman, Roger Davis, G. S. Roberts, Charles Huffnagle, Edward Chandlee, George Fox, jr., Solomon Temple, John J. White, James Swan, M. D., Caleb B. Matthews, M. D.

Alabama.—Pugh S. Houston.

Connecticut.—Perrin Barker.

New Jersey.—Joseph Pancoast.

Virginia.—Elisha Hazelwood, Theodoric Bland, Thomas B. Clopton, F. H. Anderson, Samuel B. Richardson, Frederick Horner, —— Finney, William D. Baldwin, George Terril, M. D., U. S. Navy.

South Carolina.—James F. Griffin, Thomas F. Potter, Josiah C. Nott, L. C. Trezevant.

North Carolina.—J. P. Freeman, Jessie Randolph.

District Columbia.—Sidney W. Smith, James C. Hall.

Georgia.—C. P. Richardson.

Maryland.—Thomas S. Herbert.

True statement from the minutes of the society,

JOHN R. W. DUNBAR, *Recording Sec'ry.*

P. S. It may be well to state for the information of those members in the city, who are not apprised of it, that the charter of incorporation has been lately altered so as to enable the society to hold a summer session, which will therefore commence the first Saturday in May, and continue to meet, with the exception of the month of August, until the regular winter session.

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7. A statement of the number of medical students attending lectures (1826-27) in the several medical schools in the United States. A list of the graduates will be given in the next number, if furnished by the respective institutions.

Bowdoin Medical College, Maine,	from 65 to	75
Dartmouth Medical College, N. H.	100	125
Castleton Medical College, Vermont,	40	50
Burlington Medical College,	75	100
Massachusetts Medical College,	100	125
Berkshire Medical College, Mass.	100	125
Yale Medical College, Conn.	85	100
University of New York,	90	100
Western, or Fairfield Medical College, N. Y.	140	150
Rutger's Medical College, N. Y.	100	120
University of Pennsylvania,*	400	450

* We understand that there were upwards of one hundred and fifty candidates for the degree of M. D. in this Institution, and we think it probable from the number of rejections, together with those who have withdrawn, that about one hundred will be graduated. We must confess that we are pleased to hear of strict examinations, as it is by this means our profession must become respectable.

Jefferson Medical College,*	90	100
University of Maryland,	175	200
Washington City, D. C.	35	45
University of Virginia,	25	30
Charleston Medical College, S. C.	60	80
Transylvania University, Kent.	180	200
Cincinnati Medical College, Ohio,	40	50

In obtaining the above statement, endeavours have been made to be as correct as possible. Agreeably to the circular of Dr. Hosack and others, more than one *million* of dollars must have been expended in the United States by medical students, within the last six months. Quere. Would not a great proportion of this money have been much better employed in manufactures, agriculture, &c.? We should be pleased to have the opinion of Mathew Carey, Esq. on this subject, for our next number.

* Although it is stated that from 90 to 100 attended this institution, yet we are informed from a source which we presume will not be questioned, that the *actual* number of pay *students* was *thirty-six;* we are also creditably informed that there were *thirty-five candidates* for the degree of M. D., out of which number *thirty-four* obtained the honours of the doctorate, and we understand one of the professors said *honourably!* We believe this is making doctors "in a degree unparalleled in our country;" besides, they are *made* much cheaper than at some of the other schools.

From the *vast progress* made in this modern institution, we have little doubt but that it will shortly *rival* even the *celebrated* school of *St. Andrews.* Such has been its rapid *success*, and such its *prospect* of *future greatness*, that we understand the managers intend to erect *more spacious* buildings for the next season. After this honourable mention of Jefferson Medical College, we trust we shall not again be charged with neglect in not making known the "existence of a new medical college."

P. S. For the gratification of our readers, we give the advertisement of one of the newly made Doctors, which has just made its appearance in public print.

"Samuel S. Fitch, M. D., *Surgeon Dentist.*—The undersigned would inform the inhabitants of Southwark and its vicinity, that he has taken an office in Almond street, No. 54, between Front and Second streets, (south side,) where he will be ready at all times to perform the operations of Cupping, Bleeding, and Tooth Drawing. From an accurate knowledge of Anatomy and Surgery, and for having been for some years in the practice of these operations, he can, with the utmost confidence, assure those who think proper to employ him, that he performs them with skill and propriety, and he assures those Physicians who shall be kind enough to recommend him to fulfil their prescriptions for Cupping and Bleeding, that he will perform them with the utmost promptness and precision, and in the most correct, scientific, and surgical manner.

Patronage and favour will be gratefully acknowledged by the public's humble servant,

SAMUEL S. FITCH, M. D.

8. A list of subscribers who have commenced with our last number. We consider this rapid increase the best proof of the estimation in which the work is held by the profession; all we now want to enable us to give in each number nearly three hundred pages, is prompt payment from our patrons.

NOVA SCOTIA.

—— Van Buskirk, M. D.

MAINE.

R. Buck, M. D.; Cleveland Buck, M. D.; W. S. Emerson, M. D.; Daniel R. Kennedy, M. D.; Joseph Perham, M. D., Burleigh Smart, M. D.; William Swett, M. D.; Lott Myrick, M. D.; Clement J. Adams, M. D.; Ira Towle, M. D.; Theodore Ingalls, M. D.; Joseph Benton, M. D.; John R. Hall, M. D.; Jacob Tewkesbury, M. D.

NEW HAMPSHIRE.

Professor Mussey.

MASSACHUSETTS.

Charles Knowlton, M. D.; R. Joy, M. D.; Job Clark, M. D.; George Baker, M. D.; John G. Coffin, M. D.; Boston Atheneum, Joseph Warren, M. D.

CONNECTICUT.

H. A. Hart, M. D.; Thomas Miner, M. D.; Elijah F. Bryans, M. D.

NEW YORK.

—— Peckham, M. D.; —— Thurber, M. D.; —— Calkins, M. D.; —— Norton, M. D.; D. D. Annan, M. D.; Adam Clarke, M. D.; T. B. Crawe, M. D.; William Horton, M. D.; W. Beach, M. D.; George Rogers, M. D.; J. Brinkerhoff, M. D.; William Brewer, M. D.; Samuel S. Noyes, M. D.; William N. Duane, M. D.; Benjamin A. Beldin, M. D.; Thomas Donavan, M. D.; James Hamilton, M. D.; Frederick Huttner, M. D.; William Powers, M. D.; John J. Ruton, M. D.; T. Vandenburgh, M. D.; James M'Connell, M. D.; Isaac Kipp, M. D.; A. D. B. Cornelison, M. D.; Abraham L. Cox, M. D.; B. O. Miller, M. D.;

NEW JERSEY.

Lewis A. Hall, M. D.; S. C. Thornton, M. D.

PENNSYLVANIA.

—— Ankreim, M. D.; G. W. Berkhause, M. D.; Christian Buckner, M. D.; F. S. Beattie, M. D.; Jesse W. Cook, M. D.; —— Christy, M. D.; Henry C. De Wolf, M. D.; George N. Eckert, M. D.; Samuel Freedly, M. D.; Samuel Jackson, M. D.; Samuel S. Neale, M. D.; John B. Price, M. D.; Charles Randolph, M. D.; Medical Society of Pittsburg; Robert W. M'Laughlin M. D.; James M'Goffin, M. D.; David M'Masters, M. D.; George M'Cook, M. D.; D. M. Kirkpatrick, M. D.; John Harris, M. D.

MARYLAND.

Alfred Anderson, M. D.; Charles Byrne, M. D.; C. B. M'Gill, M. D.

VIRGINIA.

W. C. Bashaw, M. D.; William S. Edwards, M. D.; Peyton S. Cocke, M. D.; Robert P. Page, M. D.; James W. Paxton, M. D.; Wallace S. Way, M. D.; John P. Hardaway, M. D.

NORTH CAROLINA.

Pinkney Colwell, M. D.; F. T. Cutlar, M. D.; —— Hopton, M. D.; Walter Jones, M. D.; Thomas D. Parke, M. D.; James F. Martin, M. D.; Leander Williamson, M. D.; A. W. Alexander, M. D.; Charles L. Paine, M. D.; James Walton, M. D.; Samuel S. Harris, M. D.; Middleton Daugherty, M. D.; Sheldon Lemon, M. D.

SOUTH CAROLINA.

Trizevant De Graffenried, M. D.

GEORGIA.

Edward Delany, M. D.

ALABAMA.

Drs. Hill and Wheatly, J. Watkin, M. D.

MISSOURI.

Samuel Haughton, M. D.; Drs. Kerrs and Guild.

MISSISSIPPI.

Nathan S. Boulden, M. D.

INDIANA.

Samuel L. Adair, M. D.; Jesse Jackson, M. D.

TENNESSEE.

Daniel Kinney, M. D.

OHIO.

James Hunter, M. D; Guy W. Wright, M. D.; William Mount, M. D.; Samuel Baldridge, M. D.

KENTUCKY.

Samuel Glass, M. D.; Daniel S. Lane, M. D.; Charles Thornton, M. D.; Augustine Wibber, M. D.

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9. The Medical Society of Lyons offers a prize for the best essay upon colica pictonum. The prize, a gold medal or three hundred francs.

'Every latitude is afforded to the candidates, that the question may be treated completely. There are some points, however, yet undetermined, and which will deserve particular attention.

'1. Is it necessary for the production of this disease, that the exciting cause should act immediately on the digestive apparatus? or is it sufficient that it should be applied to the skin and the air passages?'

The principal object of this question, is the opinion emitted by some physicians, that purgatives benefit by expelling the metallic particles.

'2. What are the characters distinguishing colica pictonum from other species of colic?

'3. What are the elementary tissues of the intestines more particularly affected? in what manner is their action altered?

'4. To explain the different modes of treatment employed, and to state the method indicated by theory and confirmed by experience.'

A similar prize is offered for the best essay on rachitis.

'1. To determine, by the results of morbid anatomy and chemical experiment, the true character of rachitis.

'2. To inquire from experience whether its progress is uniform, and if there are any essential phenomena peculiar to it?

'3. Supposing there is any thing essential, to indicate its symptoms and its diagnosis from other affections, particularly scrofula.

'4. To establish the best mode of treatment.'

The essays are to be sent, carriage-paid, before the first of June, 1828, to the secretary of the society, M. Pichard, Rue de la Monnaie, No. 12.

The Royal Society of Marseilles offers a prize of three hundred francs, to be awarded in 1827, for the best essay on the following question:—

'What is the actual state of our knowledge upon the primitive diseases of the genital organs, commonly deemed syphilitic?

'To decide the affections and the period in which mercury is useful, useless, or injurious.

'To determine the general and local treatment after which secondary symptoms most rarely occur in a temperate climate like that of France.'

To be addressed, before July 1, 1827, to M. Roux, Rue des Petits Pères, No. 11.

The Academic Society of Marseilles offers a gold medal, or three hundred francs, for the solution of the following question:—

'To decide, by clinical observation, what are the signs by which the different phlegmasiæ of the mucous tunic of the intestinal canal can be distinguished from each other; indicating more particularly their seat, their varieties, and especially the degree of analogy with the eruptive diseases of the skin.'

The essays to be sent before March first, 1828, to M. J. Orremond, secretary, Rue de la Salle, No. 1.—(*London Medical Repository and Review.*)

Candidates in the United States for the abovementioned prizes, who may not have an opportunity of transmitting their essays, are respectfully informed that the editors of this Journal will take charge of, and have them forwarded to France.

10. The Albany County Medical Society have proposed the following prize questions for 1828, of fifty dollars each.

1st. The nature of Goitre, showing in what section of the United States it prevails, and by what atmosphere or topographical influence that affection is aggravated, and by what remedies it can best be relieved or cured.

2d. The history, causes, and cure for scrofula, with particular reference to its prevalence and prevention in the state of New-York.

The dissertations to be sent to the secretary at Albany, on or before the first day of January, 1828.

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11. *To the Editors of the Medical Recorder.*

Desirous to lend our aid in the promotion of medical science, we have determined to offer premiums for the best essays on medical subjects, to be named by us.

Aware of the extensive circulation of your journal, we have selected it as the best channel for the promulgation of medical information; and in selecting it, we flatter ourselves it will be equally agreeable to its conductors and to its patrons. If so, you will insert this note in the next number of the Recorder. The subjects of the essays for which premiums are now offered, are, 1st, on Dropsies—2d, on Typhous Fever.

It is desirable that the essays, to be really useful to the practitioner, should be truly practical. The best essays on each of the above subjects will be entitled to a silver cup of the value of fifty dollars.

The essays are to be delivered at the publication office of the Medical Recorder, free of expense, in the following order: the first the fifteenth of January, 1827—the second the fifteenth of July, same year. The unsuccessful essays will be returned on application.

July, 1826.

The above offer is made by several highly respectable physicians.

The successful essay on Dropsies will be published in our next number. To give a longer time for candidates for the essays on Typhous Fever, the twenty-fifth day of August is fixed as the last day on which they will be received. The successful one will be published in our October number.

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12. During the past winter, Dr. I. Rhea Barton, of this city, has performed a novel and interesting surgical operation. A case of anchylosis of the hip joint, with considerable deformity, came under his notice as one of the surgeons to the Pennsylvania Hospital. The patient, a young man, was desirous and willing to submit to any operation that offered a prospect of correcting the deformity, and restoring, in some measure, the use of the limb; a plan was therefore suggested and acted upon by Dr. B. which consisted in making an incision down upon the bone, and then sawing it transversely across in the space between the two trochanters; the limb was then placed in splints, slight motion kept up every day, so as to prevent the formation of bony union between the divided extremities of the bone, and thus to insure the formation of an artificial joint.

Complete success has crowned the efforts of this ingenious surgeon. We have seen the patient—the wound is perfectly healed; callus has been thrown out from the upper extremity of the bone so as to form a complete socket for the lower extremity; the patient can walk about with the aid of a stick, and there is merely a slight shortening of the limb, which can be moved in all directions.

In our last number, page 189, we mentioned a case which has some analogy to the above, where the head of the humerus was removed by James Syme, esq. of Edinburgh; after which the shoulder joint was susceptible of distinct motion, in all directions, by means of its own muscles.—An original communication of a somewhat similar case, by Dr. Henry Hunt, late of the United States' army, is also published in the first volume, page 365, of the Recorder.

OBITUARY NOTICES.

We believe short notices of the deaths of physicians generally ought to be recorded in medical journals. For this purpose we respectfully invite our professional brethren to give us the earliest intelligence of the deaths of their neighbouring physicians. We also beg leave to extend this request to the relations of medical men.

1. Died, on Friday the 28th September, at eight o'clock, P. M., at his residence in Morgan county, Georgia, in the twenty-ninth year of his age, Dr. James H. Lucas, (lately of Virginia,) of a violent attack of bilious fever, of seven days' duration, which he bore with fortitude and resignation. In the death of Dr. Lucas his relations have lost an excellent friend, and society one of its brightest ornaments. He was an honour to his profession; his superior talents supported its dignity.

For some interesting productions from his pen, we refer to several back numbers of the Medical Recorder.

From the Winchester Virginian.

2. Dr. Cornelius Baldwin, whose death was last week announced, at the advanced age of seventy-six years, was one of the few survivors of that patriot band who fought and won the battles of the revolution, and to whom, under Providence, we are indebted for the emancipation of our country from foreign servitude and oppression. At an early age Dr. Baldwin entered the revolutionary army in the character of a surgeon, and staked his fortunes and prospects on the issue of the doubtful and unequal struggle in which we had embarked. He continued throughout the war at his post, in the faithful discharge of the arduous and unpleasant duties it devolved upon him; and at its termination, now near half a century ago, located himself in Winchester as a surgeon and practitioner of medicine, where he remained in the successful prosecution of his professional calling, until compelled by advancing years and bodily infirmities to abandon it. The best proof of the high estimation in which Dr. Baldwin was held as a physician, is afforded by the fact, that although residing in a section of country which embraced many who were distinguished for talents and medical skill, no one ever commanded a larger share of practice, or enjoyed more of the public confidence, than he did. But it was not only in his professional avocations that Dr. Baldwin was useful to the community; as a diligent, upright, and vigilant magistrate, he rendered essential service; and in all the various relations in which he stood to society, he acquitted himself in a highly creditable manner. As a man his character was "without spot and without blemish;" as a neighbour and friend, he was kind, hospitable and benevolent; his heart "was open as day to melting charity." But in the more domestic relations of husband, father, and master, he stood pre-eminent. It was here in the little family circle that his virtues shone with peculiar lustre, and grappled to him those around "with hooks of steel." Possessing great equanimity of temper, a cheerful disposition, and a mind strong, vigorous and discriminating, much improved by reading and observation, the deceased was an agreeable companion to the old and the young. Wherever he was known his death will be sincerely lamented. He was one of our oldest citizens, and the high estimation in which he was held by those who had long and intimately known him, was fully attested by the immense concourse (some of them his revolutionary compatriots) who attended to pay him the last sad tribute of respect, by accompanying his remains to "the house appointed for all the living." The civil authorities of the town resolved to attend his funeral; and the volunteer companies, as a demonstration of respect for the character of the deceased, and in consideration of his revolutionary services, united in the procession, and awarded military honours.

3. From the American Republican, published at West Chester, Chester county, Pennsylvania, October 10, 1826.

"Beware what earth calls happiness, beware
All joys, but joys that never can expire:
Who builds on less than an immortal base,
Fond as he seems, condemns his joys to death."

Departed this life on Sabbath morning, the first instant, at his residence New London Cross Roads, Dr. ALLEN F. CUNINGHAM, aged 33 years, and on the evening of the day following his remains were interred with masonic honours at New London church-yard, attended by an unusually large concourse of weeping relatives and friends. In his death science deplores the loss of a favourite son; his neighbourhood an useful man; the public a good citizen; and his immediate connexions an affectionate and beloved relative.

"While weeping friends bend o'er the silent tomb,
Recount his virtues and his loss deplore,
Faith's piercing eye darts through the gloom,
And hails him blest, where tears shall flow no more."

Dr. Cuningham was a native of Chester county, and born in the house in which he died. Few men of his years, amidst the various connexions in which he stood with the community, his neighbours and fellow citizens, in social life and professional pursuits, had been so fortunate as to conciliate and retain so much of the esteem of the world; all his actions and all his words appeared, without any design on his part, to be the best suited to the occasion from whence they emanated, and at no time calculated to give offence. He was modest, but not reserved; intelligent, but not loquacious; a stranger to deceit, his language was ever the expression of his feelings; sincere, though guarded; warm and animated, but never extravagant.

In his profession, in which he shone with eminence, and took particular delight, humanity made a prominent appearance in the group of his excellencies. The native bias of his soul led him to the relief of distress in those labouring under disease, without being influenced by the prospect of pecuniary reward. He was extremely attentive to his patients, and spared no pains to investigate the causes and nature of their maladies, and to afford all the relief in his power; and his professional labours were attended with a happy success.

His moral deportment was evidently founded upon the principle recognised in the golden rule; mild in temper, affable and amiable in disposition, unassuming in his manners, warm in his friendships, liberal in his sentiments and opinions, sound and discriminating in mind and judgment, an enemy to flattery, and no man was ever less ambitious of popular applause.

"Dust thou art and unto dust shalt thou return," is the irrevocable decree of heaven. I visited him in his illness; he bore it with christian and manly fortitude. I followed his remains to the grave, and saw them deposited in our "mother earth." The sepulture and its solemnities will never be forgotten by me. The words "Farewell brother,"* uttered amidst heart-rending sobs, and with the broken voice of sorrow, still vibrate upon my ear, "Farewell brother."

"Man's home is in the grave.————
Here dwells the multitude; we gaze around,
We read their monuments; we sigh, and while
We sigh, we sink.————" P.

* Alluding to the masonic funeral ceremony.

PROCEEDINGS

OF

THE COUNSELLORS

OF THE

MASSACHUSETTS MEDICAL SOCIETY.

The Committee appointed on the 4th day of October, 1826, to consider a communication from the Medical Societies of Vermont and New Hampshire, and to report to the counsellors, have attended to the duty assigned them, and respectfully recommend the following answer to said communication: and further, that it be printed and transmitted to the Medical Societies and Medical Institutions in the States of Vermont, New Hampshire, New York, Connecticut and Maine, and to the Medical Institution of Harvard University and the Berkshire Medical Institution in this State.

(Signed) JOHN C. WARREN, JOHN DIXWELL, GEORGE HAYWARD, } *Committee.*

The Counsellors of the Massachusetts Medical Society to the Medical Societies of the States of Vermont and New Hampshire,

GREETING:

The Counsellors of the Massachusetts Medical Society acknowledge the receipt of your letters dated December 15, 1825, and June 6, 1826. The disposition, manifested in these communications, to improve the character of the medical profession in this part of the country, by elevating the standard of admission to practice, is perceived by them with peculiar satisfaction. Occupied as this society and its counsellors have been, for the last twenty-five years, in a series of constant and laborious efforts to render our profession respectable and useful; and availing themselves, as they have done, of every circumstance to enforce on candidates the necessity of fully qualifying themselves for the responsible duties of the medical profession, they cannot but regard with deep interest any proposition tending to the accomplishment of objects, in their view, so desirable. The Massachusetts Medical Society have indeed succeeded in establishing a system for their own commonwealth, and have now the gratification of seeing it in full practice. The Medical Institution of Harvard University have done the same. Yet the counsellors are not desirous of maintaining that their system is perfect; nor would they exclude the consideration of amendments therein; but rather invite and solicit it.

The counsellors will now take the liberty to apply the experience, the practice of their society has given, to the proposals contained in your communication, with that frankness which the importance of the subject to the public good and to their own institutions seems to demand.

Proposition 1st.—"Each and every student who may apply for the above purpose, (license to practice) to any county society in this state instead of applying to the Medical Institution for degrees, after the first day of January, 1827, shall bring a certificate, that his preparatory studies are sufficient to his being able to enter the freshman class in either of the colleges in this state, or submit to be examined to this effect, unless he may have the degree of Bachelor of Arts."

On this we remark—That the requirements for admission to the freshman class vary in the different colleges; and are much greater in some, than in others. Of course the proposal in question would not have the effect to produce uniformity in the different states; and without this, all attempts at improvement would probably be fruitless. The Medical Society of Massachusetts have always demanded of their candidates a preliminary knowledge of natural philosophy. This is not included in the preparatory studies alluded to, and is yet of great importance to medical education.

Proposition 2d.—"If any candidate shall have the degree of Bachelor of Arts, he shall be required to have studied three full years with some licensed practitioner, with an absence of not more than six weeks in each year. If such candidate has been only fitted to enter college, he shall have studied four years as above, before he shall be admitted to an examination for a license."

To this the Counsellors of the Massachusetts Medical Society are ready to give their unqualified approbation.

Proposition 3d.—"Each candidate applying as above shall have attended at least one course of public Medical Lectures during his pupilage; shall have arrived at the age of twenty-one years, and shall bring certificates of a good moral character."

The counsellors of this society, considering courses of lectures to be indispensable to an adequate knowledge of the medical art, and being aware that students acquire much more information from a second course than from the first, do therefore concur in this third proposal, and in the amendment made by the New Hampshire Medical Society, which substitutes two courses of public medical lectures, in some legally organized and respectable medical school, for one course.

Proposition 4th.—"Certificates of study, of morals, &c. shall be made oath to before some competent civil officer, unless given by some member of a legal Medical Society in this state."

Certificates of study are not admitted by this society, excepting from their own fellows; and considering the necessary ignorance which the members of one society must have of those of another, we believe this regulation to be wholesome, and proper to be continued. Such being the case, the taking an oath appears unnecessary, and we would willingly avoid being instrumental in making this practice more common than it is already.

Proposition 5th—"Being fully impressed with a view of the necessity of a general reform, this society, with due deference, do hereby recommend to the Medical Institutions in this state, and also, in the neighbouring states, that candidates be furnished with degrees of Bachelor of Medicine instead of Doctor of Medicine, after the above period of time; and that degrees of Doctor of Medicine be conferred on those who may merit them seven years after the degree of M. B. may have been granted."

To the recommendation contained in this article, the counsellors do not feel prepared to agree, for reasons which they will proceed to state.

First. The precedents of this country and of Great Britain, not to go further, are against such a measure. In all the universities distinguished as seminaries of medicine, the practice is established of granting the degree of Doctor, and not Bachelor of Medicine, after three, or at most four years of study. Thus it is at Philadelphia, New York, Baltimore and Boston; thus also it is in Edinburgh, Glasgow and Dublin. It is true that a different practice prevails in Oxford and Cambridge in England; but it is well known that these have never been distinguished as seminaries of medical learning, and that few medical degrees are applied for in either of them.

Second. The practice of requiring a degree preliminary to that of Doc-

tor of Medicine, is useless. The candidate who has obtained the degree of Bachelor of Medicine, being by this admitted to practice, will usually be indifferent to any further degree; and when established in practice, will rarely be found willing to interrupt the course of it, and subject himself to a new examination. In the instances where the secondary degree should be sought, the candidate would not often vary his course of pursuits with a view to such examination; and of course, his literary attainments would not be materially, if at all, increased by the expectation of it. The most that could be expected, would be a review of elementary studies; and an examination grounded on the expectation of such a review.

Third. The experiment of granting the degree of Bachelor of Medicine has been already tried before our eyes, and has failed. In the earlier years of the Medical Institution of Harvard University, this system was established; and it appeared not only that the degree of Doctor of Medicine was rarely sought, but even the degree of Bachelor was not often conferred—the candidates choosing some other seminary where the requirements were less complex. Many of the fellows of this medical society having been disposed to believe that the check to a full introduction to the society contained in their laws, is not advantageous, it has been recently proposed to abolish it. Hitherto it has been the custom to require every licentiate to wait three years before being allowed admission to the society. A committee is now in existence for the purpose of inquiring into the expediency of abrogating this law.

Fourth. The proposed plan would drive those students, whose pecuniary means permitted, to other institutions, in which the degree of Doctor of Medicine could be obtained in a shorter time.

Proposition 6th.—"This society hereby directs their secretaries to correspond with the constituted authorities of the several Medical Institutions and Medical Societies in the states of Vermont, New York, Connecticut, Massachusetts, Rhode-Island, New Hampshire and Maine, and respectfully suggest the propriety of their adopting, simultaneously, regulations similar to the above for the benefit of the community and the reputation of the profession; and they are further directed to accompany these ordinances with such explanations and arguments as the nature of the subject may seem to require."

Proposition 7th.—"In case the above propositions shall be rejected by the constituted authorities of the several Medical Institutions and societies as above, then these ordinances are to be rescinded and not obligatory on the Medical Societies in this state, but if adopted to be strictly observed."

To these the counsellors are ready to give their assent. They consider it to be not improbable, however, that measures similar to those proposed, may be adopted by them, whether they are generally adopted or not.

The counsellors are perfectly aware, that changes in the requirements of candidates are attended with great inconvenience, and ought to be made slowly and circumspectly. Their own system is well established, and has been found to answer the purpose of its formation; but notwithstanding these considerations, they are willing to modify it, should it be found necessary to do so, for the purpose of forming a system of general application.

The counsellors have considered themselves bound to give you information, as soon as possible, of the state of opinion among them, in regard to the proposed changes. At the same time, they would have it understood, that they have no power to alter the laws of their society; this can be done only at a general assembly of the society at its annual meeting.

In order that you may be more fully informed of the system established among us, we take the liberty of sending you a copy of our by-laws, and also a copy of the statutes of the Medical Institution of Harvard University; some of which we think might be incorporated into the proposed improvements; particularly that which requires every candidate to write a dissertation on some medical topic.

But it is obvious that the various societies and institutions invited to con-

cur in the proposed regulations, being governed by their peculiar laws and habits, will take different views of any system which may be presented to them; and hence, they will no doubt reject some propositions made, and advance others of their own. Now, according to the proposal of the Vermont Society, the whole system is to be relinquished, if not adopted by the constituted authorities of the several medical societies and institutions in the states named above; therefore, it is proposed by this body—

That a convention of delegates be held in some central place, for the purpose of agreeing on a uniform system of instruction and examination of students of medicine. That this convention be composed of one delegate from each of the medical societies and medical institutions of all the states named in the Vermont circular; and of such other states as may be disposed to unite therein. That the meeting for this purpose be held at Northampton, in the state of Massachusetts, on the second Wednesday in May, 1827, at 10 o'clock, A. M., or at such other time and place as may be judged expedient. That if a system of instruction and examination should be agreed on, the same shall be submitted to the different societies and institutions by their respective delegates, and each society and institution shall be at liberty to accept or reject it; and if the greater number of institutions and societies adopt the same, it shall go into operation. It being understood that those who adopt the system receive the benefits expected to arise from a reciprocity in the reception of practitioners, graduated or licensed at any of the several societies and institutions included in this arrangement; and that those who do not adopt it are deprived of those benefits. Further, that the expense of the attendance of each delegate be defrayed by the society or institution by which he may be elected; and that, should the Medical Society of Vermont adopt the proposal for a convention, they be requested to issue notices to the several medical institutions and societies in the states abovementioned, inviting them to choose delegates for the convention, at the time and place aforesaid, or to fix some other time and place, if it should be found expedient.

AT a special meeting of the Counsellors of the Massachusetts Medical Society, held at the Medical College, Mason Street, November 7th, 1826—

The Committee to whom was referred, at the last meeting, the Circular Letter from the Medical Society of Vermont, made a report, which, having been read and discussed by sections, was unanimously accepted.

A true copy from the Records....Attest,

GEO. HAYWARD, *Rec. Secretary.*

Boston, Nov. 27th, 1826.

CIRCULAR.

BERKSHIRE MEDICAL INSTITUTION.

December 29, 1826.

SIR,

THE faculty of the Berkshire Medical Institution having received with much satisfaction, the proposals made by the Medical Societies of Vermont, New Hampshire, and Massachusetts, for the improvement of medical education, by producing an uniformity in the qualifications of candidates for medical degrees and licenses, most willingly acquiesce in many of the propositions submitted to them; and considering the importance of this subject to the whole community, and the advantage which would be derived from a free interchange of opinions on these and other subjects having the same general bearing which might be suggested, they think that a convention, as proposed in the circular of the Massachusetts Medical Society, would be the best mode of discussing these topics.

Many reasons will present themselves to every one, why a national convention should be more useful, and accomplish the purpose more effectually, than any which is merely sectional—they apprehend that those institutions which are situated on the borders of that section of country from which the proposed convention is to be formed, may have some conflicting interests to prevent them from entering upon so laudable an object—they might not readily comply with proposals which would have a tendency to induce students to resort to other institutions, where the requisitions are less—this would be prevented, if all the medical institutions, or the most important of them, were to send delegates to a general convention. In order to do this, however, it would be necessary to appoint some more central place for the meeting, perhaps New York, and to fix on some more distant time.

They merely make these suggestions for the consideration of your society by no means intending to dissent from the proposition of the Massachusetts Medical Society.

Should it still be thought expedient, they will appoint a Delegate to represent them at Northampton, on the second Wednesday in May next.

By order of the Faculty.

JOHN P. BATCHELDER, *Dean.*

CIRCULAR.

RUTGERS' MEDICAL COLLEGE.

New-York, 13th January, 1827.

The bill brought into the Assembly, so early in the session, by the Member from New-York, and urged through its readings with so much hurry, is a very extraordinary measure for a person from this city, who might recollect that he had more than one set of constituents. It is in the knowledge of that gentleman, that Rutgers' Medical College exists here, and also, that it has the Professors who, for fifteen or more years, filled the Medical Chairs in the city of New-York. It is further in his knowledge, that those persons have lately formed a new school, and erected a new and elegant edifice for teaching Medicine and Surgery, without one dollar expense to the public, and utterly disclaiming any call upon its purse.

Under these circumstances we are desirous, with great deference to the Legislature and the public, to draw their attention to the tendency of the bill in question. By an act of the Legislature, persons dying in the State Prison are, at the discretion of the inspectors, to be given to the College of Physicians and Surgeons for dissection. When that act passed, there was but one Medical School in this place; and reference could be had to that alone. Now there are two, and yet the bill would give to the College of Physicians and Surgeons, without any reference to the other, the bodies of persons dying in the New-York Penitentiary, according to the discretion of the superintendants thereof! By this uncandid manner of specifying the first and avoiding all mention of the second, an attempt is made to give a monopoly to the College of Physicians and Surgeons of the means of instruction in Anatomy and Surgery, and deprive Rutgers' College of all participation, though both schools profess the same useful object, and the latter is not unknown for the success with which it prosecutes medical education.

If this very delicate subject is to become at all matter of legislation, the act should at least be impartial. The favoritism of any one, or the enmity of any one, should not be allowed to mix in a legislative act. Dead bodies are necessary for the teaching of Anatomy and Surgery, and because they are necessary to an indispensable science, the most unjust and odious of all

monopolies would be that, which, either directly or by subterfuge, should appropriate them to one school. As well might the Legislature be called upon to give an exclusive privilege in the use of Peruvian bark, opium, or mercury.

WE do not ask for exclusive advantages; on the contrary, we welcome the competition of as many as choose to teach. If we cannot maintain ourselves without special privileges from the Legislature, we are content to loose the time, labour, and large capital we have invested in Rutgers' Medical College. Impartiality from the higher authorities is all we solicit. To ourselves we look for our reward. We do not deprecate the competition of the colleges of the state. We ask only to meet our rivals on equal terms in the field of free competition, satisfied that this will even improve ourselves, increase the sum of useful knowledge, and add essentially to the welfare of the public, but more especially of the medical profession. We act under the conviction that the talents, industry, and fame of professors can alone confer respectability upon a college. The signature of Boerhave given at Harlaem, where he had no privilege, would confer as much value on a diploma, as the same signature from Leyden, where he was professor of the University. The Medical School of Edinburgh derived all its celebrity from the talents of Black, Monroe, Cullen, Gregory, Hamilton and Duncan, unsupported by appropriations from the crown. The school that cannot be sustained by its Professors, ought to fall. And we are confirmed in these views by seeing that the new University of London, organized under the auspices of some of the most enlightened men of the age, declines taking a regal charter, and trusts solely to the reputation it shall establish with the world, for the credit due to its diplomas. Nevertheless, in order to satify those who do not as yet think on this subject with the enlarged ideas that more knowledge will supply, we have formed a scientifiic connection with the university of an adjacent state, where we have experienced that kindness and fraternity which should ever exist between the different sections of the same country. Our territorial divisions, whether they be of counties, districts, or states, are, in a comprehensive view, to be regarded as set up for the convenience of civil administration, and never to be used for purposes of opposition, jealousy, rivalship, or, indeed, for any evil purpose whatever. Science knows no such geographical limits: we are United States.

As matter of settlement between the Member from New-York and his fellow-citizens, it must be confessed that his bill is calculated to inflict a very serious injury, in its consequences, upon a numerous portion of our straightened but respectable population; upon those widows and industrious families who keep boarding houses for students of medicine; upon those mechanics of various trades who supply the wants of from one to two hundred young men annually, and those printers and venders of books who sell in this city to so large a number of professional readers. If the Bill of the Member from New-York were to take effect, the result would be to drive many of those medical pupils from our state, and with them the pecuniary interests which this community would derive from a great medical school: for they who now prefer the lectures delivered in Rutgers' medical college, if coerced by the monopoly proposed, to go to another school for instruction, would immediately betake themselves to the university of a neighbouring state.

It may not be amiss to add some facts which will enable those who take an interest in the scientific institutions of our country, to form an estimate of some of the benefits conferred by any distinguished school of medicine upon the city in which it is located.

Each student expends on an average $400 during every session. This money is given for tickets of admission to the lectures, for books, boarding, clothing, &c. A class of 150 students, at $400 each, brings into circulation

a gross amount of $50,000.* The class attending the course of lectures in a neighbouring city, is stated to be 500 in number. Allowing the same average, (which is far below the actual expenditure) that class expends during four months attendance on the lectures, $200,000. The whole of the money thus expended, goes immediately into the hands of the citizens, from the owners of property down to the humblest mechanics and servants, and the withdrawal of any considerable part of this supply, would be followed by much distress and inconvenience among all those who derive their support from ministering to the members of the class.

But it is not merely by the gross amount expended during the session that the city is benefited by the attendants on a public course. They form acquaintances with men of business, with whom they continue to deal, in many instances, during their lives, and their influence is always favourably exerted towards the place in which they have completed their education, and have formed their numerous interesting relations. It is not, therefore, surprising that the municipal authorities, and citizens generally, who properly appreciate such an institution, should concur to offer every possible inducement to students to prefer *their* city and institutions to all others.

Medical education, which, at present, commands a considerable share of public attention, involves in the manner of its administration, some of the dearest interests of society; those, therefore, who engage in discussions arising out of the existing conditions of public institutions, ought carefully to inform themselves of the circumstances which are most favourable to the improvement of medicine, before they side with a party or declaim against its individuals.

In our happy country, every individual possessed of the requisite qualifications and character, has the right of teaching the results of his experience and study to whomsoever his intructions may be acceptable. A body of such individuals, whether under the title of University or College, have no other claim upon the public than what they derive from the exertion of their talents and industry, and the benefits they are capable of conferring upon their fellow-citizens. The College may be under the patronage of a state, or it may be supported by the reputation of its teachers alone: it may derive the right to confer scientific honours from the state in which it is located, or from another source: neither circumstance being of more than relative or nominal importance, since neither affect the excellence of the knowledge imparted, nor lessen the pecuniary benefits conferred by the institution upon the place in which it is established. Wherever the best lectures are given and the greatest degree of talent and enterprise are displayed, there the largest number of pupils will be found. It is their own interests they seek to promote, when they select, and not those of the teachers they prefer; hence every other consideration relative to the peculiarities of the institution, is with them subordinate to the character of the teachers and the amount of useful knowledge to be acquired.

With these truths (confirmed by daily experience) in view, it is amusing enough to hear the complaints and threatenings of those whose pecuniary interests are endangered by the fairest and most liberal competition, and who would willingly enlist the prejudices of society in their favour, so far as to bring in the strong arm of the law to shield them. Not content with *patronage* and *privilege*, with the money and the name of the state, they desire to have the *monopoly* of the right of teaching; would deprive students of medicine of the liberty of prefering the course they may discover to be most conducive to their character and interests, and deny to all, except themselves, the chance of opening sources of general benefit, however much *their* fountains may become dried up or exhausted. So confidently too do some such persons menace the interference of legislative bodies, to prevent citizens of the United States from living by the honourable exertion

* This is about the amount expended this winter in New-York by the present class of Rutgers' Medical College.

of their talents, that one might almost imagine our legislators were not Americans—free agents—nor acquainted with the *rights* of those they represent! To hear the legislative power thus brought forward to deter citizens from the exercise of callings in which they are acknowledged to have attained respectability, and even eminence, we might think ourselves subjects of a despotic sovereignty, instead of living under our own laws, made by our own representatives, who hold their stations only so long as they act consistently with the rights and dignity of their constituents. How weak and pitiable must be the condition of those, who in a *free state* and in *times* like ours, have no better way of competing with men emulous of fame and public favour, than by calling on the legislature for grants of *monopoly*, and thus endeavouring to stifle talents with which they dread fairly to contend!

In aid of the same *liberal* policy, the complaint is often made by such persons, that they have no objection to a rival institution, but are offended that a *foreign* college should be established in their immediate vicinity! Were this the fact, some weight might be allowed to it; but when it is known that *six* individuals have erected an edifice, highly ornamental to the city, out of *their own* funds; that *five* of these individuals have been almost their whole lives citizens of, and resident in New-York; and that *four* out of the six have during fifteen or twenty years past been distinguished as teachers of medicine in the College of the state, while but *one* of the number has come from another state or city of the Union, will not the public duly appreciate the *disinterestedness* and *genuineness* of that patriotism, which is so sensitive in relation to *foreign* influence, as to discover that those who have taught as Americans and citizens of New-York in one street, have become expatriated and disfranchised by instructing pupils in another?

The *threats* and clamours about *foreign* influence, with a view, if possible, to prevent competition of *talent*, are so entirely ignoble, so far from the course which men of generous emulation should pursue, and so utterly repugnant to the constitution of our country and the spirit of the people, that we can scarcely imagine any thing more absurd, unless it be, that the legislature should *grant* the *monopoly* desired, and proclaim that henceforward votaries of science, and men emulous of fame, should neither dare to seek for reputation nor subsistence within our borders—but depart to other regions, where mind is free—talent at liberty to develope its strength and usefulness, and where the dominion of dulness cannot, by any possibility, be rendered *legitimate!*

But, in the rectitude and wisdom of our fellow citizens, who preside with so much advantage over the interests of the state, we feel the fullest confidence; recollecting the beautiful maxim of Cicero—"*Justis autem et fidis hominibus* (*id est*, BONIS) *ita fides habetur, ut nulla sit in his fraudis injuriæque suspicio; itaque, his salutem nostram, his fortunas, his liberos, rectissimè committi arbitramur.*"

Under these impressions, we confidently trust that the legislature, when they may be duly informed upon this subject, will, in their proceedings, manifest to this new institution the same protection they extend to the other medical schools of our state. In science as in religion, protection should be given to all—preference to none. We ask no more.

DAVID HOSACK,
SAMUEL L. MITCHILL,
WILLIAM JAMES MACNEVEN,
VALENTINE MOTT,
JOHN W. FRANCIS,
JOHN D. GODMAN,
JOHN GRISCOM,
PETER S. TOWNSEND, Registrar.